DOCUMENT RESUME

ED 186 600 CE 022 971

TITLE	Occupational Clusters. Occupational Investigation Guide. First Edition.
INSTITUTION	East Texas State Univ., Commerce. Occupational Curriculum Lab.
SPONS AGENCY	Texas Education Agency, Austin. Dept. of Occupational Education and Technology.
PUB DATE	79
NOTE	248p.; For related documents see CE 022 969-972 and CE 022 977.
AVAILABLE FROM	Occupational Curriculum Laboratory, East Texas State University, Commerce, TX 75428 ($2.50)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	Agricultural Education; Allied Health Occupations; Building Trades; Business Education; *Career Education; *Career Planning; Communications; Distributive Education; Environment; Fine Arts; Grade 7; Grade 8; Junior High Schools; Learning Activities; Manufacturing; Marine Biology; *Occupational Clusters; Occupational Home Economics; *Occupational Information; Public Service Occupations; Teaching Guides; Transportation; Vocational Education

ABSTRACT

This occupational investigation guide contains learning activities for instruction in fifteen occupational clusters: (1) agribusiness and natural resources, (2) business and office, (3) communications and media, (4) construction, (5) consumer and homemaking, (6) environment, (7) fine arts and humanities, (8) health, (9) hospitality and recreation, (10) manufacturing, (11) marine science, (12) marketing and distribution, (13) personal services, (14) public services, and (15) transportation. In addition, an introductory section contains learning activities designed to aid the student in learning to name the occupational clusters and locating occupational information. Each activity includes six basic components: objectives, suggested activities, directions, information sheets, transparency masters, and student handouts. (LRA)

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OCCUPATIONAL CLUSTERS

Occupational Investigation Guide

MATERIALS DEVELOPED AND DISTRIBUTED BY

Occupational Curriculum Laboratory
Secondary and Higher Education
East Texas State University
Commerce, Texas

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Austin, Texas

CE 022 971

FIRST EDITION

1979

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OCCUPATIONAL CLUSTERS

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FOREWORD

The Occupational Investigation (O.I.) resource materials and teacher's handbook were developed as a result of a project funded through the Research Coordinating Unit, Department of Occupational Education and Technology, Texas Education Agency and completed by East Texas State University and the Occupational Curriculum Development Laboratory. The resource materials were developed with the assistance of the O.I. instructors throughout the state of Texas and were subjected to formal field testing and evaluation.

The materials were designed to be self-contained, and therefore require no prerequisites or specific sequence of presentation. However, the activities which comprise each guide--Self-Appraisal, Economic and Societal Factors, Occupational Clusters, and Educational Planning--may be selected by the teacher in such manner that the O.I. course progresses logically and efficiently. The teacher's handbook provides suggestions for the organization and presentation of the resource and instructional materials.

ACKNOWLEDGMENTS

Appreciation is expressed to those whose expertise made possible the development of the Occupational Investigation resource materials. Many teachers across the state have contributed their time in providing information and activities for the initial development of these publications that will be made available to other O.I. programs across the state.

Special thanks are extended to those teachers who field-tested the activities as they were developed and provided periodic evaluations and comments to be used in revision and further development.

The following guest writers and consultants should be recognized for their significant contributions to this research and development project.

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Special thanks are extended to the Instructional Materials Centers at Texas A & M University, Texas Tech University, and University of Texas at Austin for their contributions.

USE OF RESOURCE MATERIAL

The Occupational Investigation (O.I.) resource material covers the four designated areas of instruction: Self-Appraisal, Economic and Societal Factors, Fifteen Clusters, and Educational Planning. Each area includes most of the following: objectives, suggested activities, information sheets, student handouts, and transparency masters.

Careful study of the activities will enable the teacher to determine:

A. The amount of material to be covered in each class period

B. Any skills that should be demonstrated

C. The supplies and equipment needed

D. The amount of classroom time needed for both teacher demonstration and student practice

E. Any resource personnel who must be contacted.

The resource materials were organized to be self-contained. The basic components of these materials are as follows:

OBJECTIVES

Each activity is based on an objective. The objective specifies the behavior the student should be exhibiting, thus providing students with a sense of direction.

A classroom discussion should follow immediately after the objective is read to the students so that any questions concerning the performances expected of the student can be answered.

SUGGESTED ACTIVITIES

Each area of instruction has self-contained activities, outlining steps to follow in accomplishing the objective.

DIRECTIONS

Duties of the teacher will vary from activity to activity, but the following are minimum activities for the teacher:

1. Provide students with objective, information, and assignment sheets

2. Discuss objectives and any information sheets

3. Make transparencies (when included)

4. Demonstrate or discuss procedures outlined on student handout (when included)

Any additional instructional activities and teaching methods to aid students in accomplishing the objectives are strongly encouraged.

INFORMATION SHEETS

Information sheets, when included, provide content essential for meeting the cognitive requirements of the area of instruction. These sheets provide an excellent guide for presenting necessary knowledge necessary to develop the skills specified in the objective.

Teachers and students should read the information sheets before the information is discussed in class. Students are encouraged to make any additional notes on the information sheets to help them in their learning process.

TRANSPARENCY MASTERS

Transparency masters provide information in a special way. Transparencies may present new information or they may reinforce information presented in the activity. They are particularly effective when identification is necessary.

Make the transparencies from the masters and place them in your notebook for immediate use.

Copies of transparency masters can be made and used as a student handouts to supplement the material contained in the activity.

STUDENT HANDOUTS

Student handouts give directions to study and furnish activities which provide application of the knowledge contained in the teachers information and directions. These may be given to the student for completion in class or used for homework assignments.

PERSONALIZING AND LOCALIZING RESOURCE MATERIALS

Carefully review the resource materials before using the activities in the classroom. In reviewing the activities, you may find it necessary to localize and personalize the activities based upon the needs of your students.

Some of the ways of supplementing any of the four areas of resource materials or activities are the use of audio-visuals, attention getters, field trips, resource personnel, games and simulations, case studies, peer teaching, role-playing, and personal experiences of both the teacher and students.

Various methods may be used in localizing an area of the resource materials. You may wish to apply some of the activities to the local community, add additional materials from newspapers and

magazines, invite local resource people, and arrange for field trips.

In personalizing the resource material, you may want to make the course content relevant to home situations. You may wish to involve students in the planning of different activities by using their personal experiences. Having students involved in the teaching of some of the materials is sometimes an effective example of peer teaching.

OCCUPATIONAL CLUSTERS

ACTIVITY: Learning Occupational Clusters by Association

OBJECTIVE: After completing this activity, the student should be able to list at least nine of the occupational clusters.

APPROXIMATE TIME: 15 - 50 minutes

MATERIALS: Set of transparency masters, paper, pencil

DIRECTIONS: Place the transparency on the projector. Ask the class, "Who knows what 'a beft' is?" After several students have made a guess, explain that a beft is a small animal of immense strength. Use the transparency that includes this statement to reinforce the idea.

Someone will likely ask, "How small is a beft?" (If not, the teacher may need to ask the question.) Reply that a beft is three centimeters long. Place the next transparency on the projector.

Next, the teacher should respond to the question, "How strong?" Reply that it is strong enough to hold two horses pulling in the opposite direction. Use the next transparency and say, "In other words, a beft has two horsepower."

Write on the board the following: A BEFT-3CM-2HP

Stress to the class that only one beft exists; therefore, it must always be referred to as "A Beft."

At this point, erase the board. Ask the students to give the name of the animal that was discussed. Ask them how strong and then how large is "a beft."

When it is clear the students have remembered the phrase "A BEFT-3CM-2HP," explain that they have learned a simple way to recall the names of the fifteen occupational clusters

Place the final transparency on the projector. Explain that the name of a cluster is linked to each letter of the phrase. Point out that "3CM" refers to three clusters that start with the letters "C" and "M." Also, indicate that "2HP" shows that two clusters begin with the letter "H" and two with the letter "P" Ask the students to copy the information from the transparency onto a sheet of paper which may be used for future reference or help if they forget the meaning of "A BEFT-3CM-2HP."

A Beft

OCCUPATIONAL CLUSTERS

III-3

TM-1

A Beft-

a small animal of immense strength

3 CM

3 centimeters = a little more than 1 inch

OCCUPATIONAL CLUSTERS

III-7

TM-3

2 HP

(Horse Power)

OCCUPATIONAL CLUSTERS

III-9

TM-4

A AGRI-BUSINESS AND NATURAL RESOURCES

B BUSINESS AND OFFICE
E ENVIRONMENT
F FINE ARTS AND HUMANITIES
T TRANSPORTATION

C CONSUMER AND HOMEMAKING
C COMMUNICATION AND MEDIA
C CONSTRUCTION
M MARKETING AND DISTRIBUTION
M MARINE SCIENCE
M MANUFACTURING

H HEALTH
H HOSPITALITY AND RECREATION
P PUBLIC SERVICE
P PERSONAL SERVICES

OCCUPATIONAL CLUSTERS

III-11

TM-5

OCCUPATIONAL CLUSTERS

ACTIVITY: Reinforcing the Names of the 15 Occupational Clusters

OBJECTIVE: After completing this activity the student should be able to state the names of at least nine of the 15 occupational clusters.

APPROXIMATE TIME: 45 - 65 minutes

MATERIALS: Fifteen 3 x 5 index cards, each lettered with the name of a cluster and symbol of that cluster

DIRECTIONS: Prepare 15 cards by writing the name of one cluster on each card. Also, include a copy of the appropriate symbol on each card so that the students will associate a symbol with the name of a cluster. Laminate the cards if possible. Divide the members of the class into five groups. Give each group three cards. Tell the groups to memorize the information (cluster names) on their cards. At the end of one minute, take up the cards and move one member of each group clockwise to the next group. Allow 1½ minutes for the new group to memorize six clusters. Continue this procedure, moving different students clockwise to new groups while increasing the time spent in each group to two minutes. Repetition will occur, but while the students think this makes their task easier, it will actually serve as reinforcement. After four moves, the groups will have shared the names of all 15 clusters. Reorganize the class into one large group. Ask for volunteers to name the 15 clusters.

OCCUPATIONAL CLUSTERS

ACTIVITY: Naming the Occupational Clusters

OBJECTIVE: After completing this activity, the student should be able to recall the names of at least nine of the 15 occupational clusters.

APPROXIMATE TIME: 34 - 45 minutes

MATERIALS: Set of laminated bingo cards, strips of paper with names for calling game, tokens (beans, pieces of paper, etc.) for covering squares on the cards, teacher reference: Example

DIRECTIONS: Prepare a class set of bingo cards (see Example) and laminate them if possible. Make small cards (half of 3 x 5 unruled index cards works well) each with one of the letters B-I-N-G-O and one of the 15 occupational clusters written on them. (see Example)

Pass out cards and tokens to the members of the class. Explain the rules of the game. Shuffle the call cards and begin. Allow the winner of a game to be caller of the next game while the other members of the class play.

OCCUPATIONAL CLUSTERS

EXAMPLE

B	I	N	G	O
Business and Office	Consumer and Homemaking	Marine Science	Construc-tion	Fine Arts and Humanities
Public Service	Personal Services	Marketing and Distribu-tion	Health	Manufac-turing
Construc-tion	Agri-business and Natural Recources	★	Business and Office	Marine Science
Transpor-tation	Environ-ment	Fine Arts and Humanities	Hospitality and Recreation	Personal Services
Communica-tions and Media	Health	Manufac-turing	Consumer and Homemaking	Public Service

Be Careful not to write the same name twice in any one column.

Call Cards:

N Construction

I Fine Arts and Humanities

OCCUPATIONAL CLUSTERS

ACTIVITY: Clustering Occupations by Titles

OBJECTIVE: After completing this activity, the student should be able to classify at least seven jobs according to the occupational cluster of each job.

APPROXIMATE TIME: 40 - 90 minutes

MATERIALS: Handout: Activity Sheet, butcher paper (a strip approximately eight feet long), felt-tip pens, pencils, teacher reference: Grape Cluster

DIRECTIONS: Prepare for the activity by drawing a grapevine with 15 clusters of grapes. The Grape Cluster may be traced on the paper and then the clusters are connected by a vine. (The teacher may wish to use the entire piece of paper by drawing large clusters; therefore, the grapevine can be clearly visible and used as a display.) Label the clusters of grapes with the names of the 15 occupational clusters.

Distribute copies of the handout to the students. Read the directions on the handout. Tell students that they may use classroom resources for locating the names of jobs. After a short time, begin discussion of the various jobs that students have listed. As the students call out the names of the jobs, ask them to decide to which occupational cluster the jobs belong. Then write the names of the jobs on grapes in the appropriate cluster for each job.

OCCUPATIONAL CLUSTERS

ACTIVITY SHEET

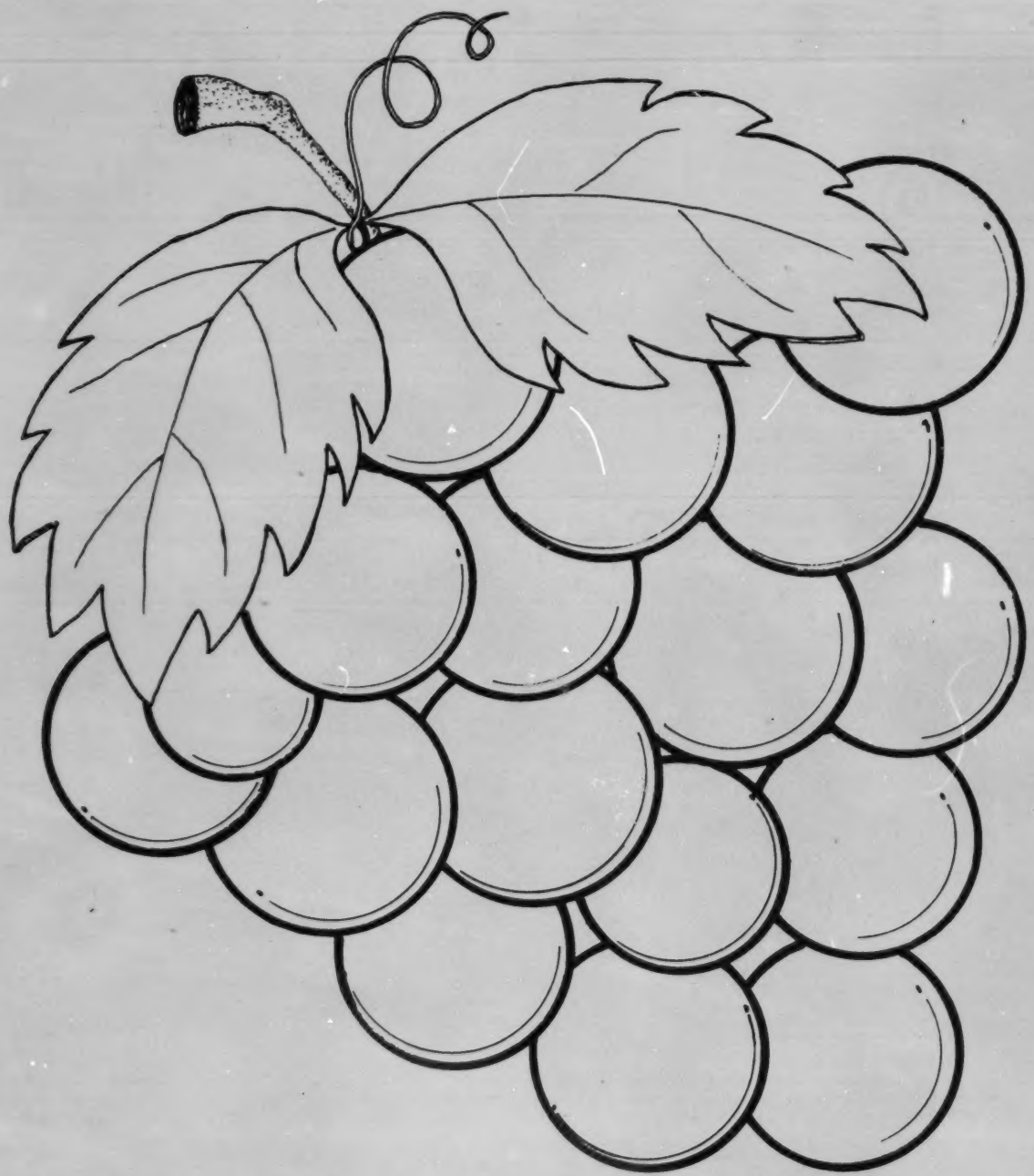
Directions: Write the name of a job that begins with each letter of the alphabet in the blanks provided.

a_____
b_____
c_____
d_____
e_____
f_____
g_____
h_____
i_____
j_____
k_____
l_____
m_____
n_____
o_____
p_____
q_____
r_____
s_____
t_____
u_____
v_____
w_____
x_____
y_____
z_____

OCCUPATIONAL CLUSTERS

GRAPE CLUSTER

(Can be traced or copied for the activity.)



OCCUPATIONAL CLUSTERS

ACTIVITY: Associating Items with the Occupational Clusters

OBJECTIVE: After completing this activity, the student should be able to identify the occupational cluster associated with or represented by at least three items.

APPROXIMATE TIME: 50 - 110 minutes

MATERIALS: Handout: Fifteen Occupational Clusters, large bag (for example, a plastic garbage bag), blindfold, items brought by each student

DIRECTIONS: Distribute copies of the handout to the students. Discuss the definitions and list on the board some examples of occupations in each cluster.

Examples

Agri-Business and Natural Resources Careers:

County Agricultural Agent
Cattle Rancher
Veterinarian

Business and Office Careers:

Stenographer
Bank Teller
Computer Programmer

Communications and Media Careers:

Telephone Operator
Proofreader
Newspaper Editor

Construction Careers:

- Painter
- Electrician
- Architect

Consumer and Homemaking Careers:

- Homemaker
- Child Guidance Worker
- Dietician

Environment Careers:

- Park Ranger
- Exterminator (pest control)
- Ecologist

Fine Arts and Humanities Careers:

- Commercial Artist
- Dancer
- Historian

Health Careers:

- Ambulance Attendant
- Registered Nurse
- Surgeon

Hospitality and Recreation Careers:

- Usher
- Circus Clown
- Travel Agent

Manufacturing Careers:

- Machinist
- Bench Assembler
- Industrial Engineer

Marine Science Careers:

- Fish Farmer
- Skin Diver
- Aquatic Biologist

Marketing and Distribution Careers:

- Retail Store Owner
- Sales Clerk
- Market Research Analyst

OCCUPATIONAL CLUSTERS

Personal Services Careers:

Janitor
Dressmaker
Barber

Public Service Careers:

Elementary School Teacher
Police Office
Urban Planner

Transportation Careers:

Bus Driver
Diesel Mechanic
Airline Pilot

Assign individual students or pairs of students to each cluster. Explain that each student is to bring to class at least one item that is related to, associated with, or symbolic of the cluster. For example, a student assigned to the construction occupations cluster could bring a hammer. On the other hand, the student may wish or be able to bring only a picture of a hammer. Pictures are readily available in magazines and newspapers.

On the date of the activity, items brought by students are placed in the large "grab-bag." Each student is called before the class, blindfolded, and asked to make a selection from the bag. If the item is a real object, then the student must tell the class the cluster associated with the item. If the item is a picture, then students around the room will answer the blindfolded student's "20 Questions" about the item. For example, the blindfolded student may ask,"Is the item found in the home?" Students who can see the picture--for example, a picture of a hammer--might answer "Sometimes." After the blindfolded student has discovered the name of the item, the cluster associated with the item must be stated. The blindfolded student, with the help of other students, should be asked the names of three to five occupations in each cluster.

OCCUPATIONAL CLUSTERS

FIFTEEN OCCUPATIONAL CLUSTERS

Cluster	Definition
Agri-Business and Natural Resources	Those occupations involved in the growth, development, and production of raw materials.
Business and Office	Those occupations involved in the management and organizational support of the functions of businesses and offices.
Communications and Media	Those occupations involved in the design, preparation, and transmission of information and messages
Construction	Those occupations involved in the planning, designing, building, and repair of all structures.
Consumer and Homemaking	Those occupations involved in the development, production, and management of goods and services, as well as the teaching and use of skills that improve family life.
Environment	Those occupations involved in the wise use and protection of nature, natural resources, and inhabitants of the land
Fine Arts and Humanities	Those occupations involved in developing, promoting, and preserving the social, moral, and aesthetic values of a culture
Health	Those occupations involved in providing services and facilities to meet the physical, psychological, and mental health needs of all people
Hospitality and Recreation	Those occupations involved in entertainment and tourism activities which serve the needs of people engaged in leisure time activities.
Manufacturing	Those occupations involved in the design and assembly of products ranging from simple home-made items to huge complex devices
Marine Science	Those occupations involved in the discovery, development, cultivation, and harvesting of marine life and other ocean resources

OCCUPATIONAL CLUSTERS

FIFTEEN OCCUPATIONAL CLUSTERS (Continued)

Cluster	Definition
Marketing and Distribution	Those occupations involved in transferring goods from producers to consumers and influencing consumers in favor of certain products or services.
Personal Services	Those occupations involved in providing services for the improvement and care of individuals' personal possessions, physical appearance, and general comfort
Public Services	Those occupations involved in providing services to people through organization established by society, normally on a non-profit basis, and usually supported by tax revenues.
Transportation	Those occupations involved in the movement of people and goods from one place to another

OCCUPATIONAL CLUSTERS

ACTIVITY: Using Classified Ads to Identify Occupations by Clusters

OBJECTIVE: After completing this activity, the student should be able to identify one occupation in each cluster.

APPROXIMATE TIME: 50 - 180 minutes

MATERIALS: Handout: Activity Sheet, copies of the classified ads/ employment section of the newspaper, scissors, glue or paste

DIRECTIONS: Distribute copies of the handout to all students. Provide copies of classified ads. Ask the students to look through the ads and locate one job for each of the 15 occupational clusters. Have the students cut out the ads and paste them on the Activity Sheet in the appropriate square for each job. Request that students compare and discuss the sheets with others.

This activity is not designed to teach skills involved in the actual use of the classified ads to secure a job. Rather, the intention is to provide a tool for classifying occupations by cluster.

OCCUPATIONAL CLUSTERS

ACTIVITY SHEET

Directions: Find one classified ad for each of the 15 occupational clusters. Cut out the ads and paste them in the correct squares.

Agri-business and Natural Resources	Business & Office	Communications & Media
Consumer & Home-making	Construction	Fine Arts & Humanities
Environmental	Manufacturing	Marketing & Distribution
Personal Services	Public Service	Marine Science
Hospitality & Recreation	Transportation	Health

OCCUPATIONAL CLUSTERS

ACTIVITY: Locating Occupational Information

OBJECTIVE: After completing this activity, the student should be able to locate three sources that contain information about occupations.

APPROXIMATE TIME: 90 - 120 minutes

MATERIALS: Handouts: Occupational Treasure Trail Questions and Occupational Treasure Trail Answers (prepared by teacher); pencils; various classroom resources (for example, Occupational Outlook Handbook, Dictionary of Occupational Titles, Career World, newspapers, magazines, college catalogues, telephone directories, journals, pamphlets, brochures)

DIRECTIONS: Prepare the handouts, Questions and Answers, prior to the date of the activity. Make sure that the questions relate directly to easily accessible materials. Questions that have been used on a "Treasure Trail" provide a guide for preparing handouts specifically suited to the teacher's class.

Sample Questions

1. What is the address to write for information regarding admission to East Texas State University?
2. What is the address and telephone number of the nearest Texas Employment Commission Office?
3. What is the job description for a Glazier?
4. Which issue of Career World has an article called "The Future Farm" on page 5?
5. Using the booklet, "Health Careers in Texas," find the names of three colleges where one can receive training to be a dental assistant. (Hint: see page 51)

Include five to seven questions on the Questions handout and leave ample space for responses on the Answers handout.

Begin the activity by pointing out the location of classroom resources available for answering the questions. Point out that resources are not to be removed from the several stations or areas where they were placed for the activity. Describe the types of information which can be found in the resources. Demonstrate the uses of the materials.

Divide the members of the class into groups of three. Give each group of students one set of questions and one answer sheet. Ask the students to work together in their groups to answer the questions as quickly as possible. Inform the students of a time limit for the activity. Reward the group that finishes first.

OCCUPATIONAL CLUSTERS

ACTIVITY: Using Occupational Information Resources

OBJECTIVE: After completing this activity, the student should be able to secure occupational information for at least three occupations, each from a different cluster.

APPROXIMATE TIME: 45 - 120 minutes

MATERIALS: Handout: Occupational Information, pencils, classroom resources (including, Occupational Outlook Handbook, Dictionary of Occupational Titles, Career World, newspapers, magazines, college catalogs, telephone directories, journals, pamphlets, and brochures)

DIRECTIONS: Distribute copies of the handout to the students. Read the directions and answer any questions. Tell the students they are to work individually, using the resources available in the classroom. Assist the students who have trouble locating information. Arranging the resources at work stations or areas may facilitate the completion of the activity by most students within the time limits. To motivate students, the first person to complete the handout may be declared winner and awarded a prize.

OCCUPATIONAL CLUSTERS

OCCUPATIONAL INFORMATION

Directions: Find occupations that begin with the following letters. (Each occupation should be from a different cluster.) Write the name and a brief description of the duties, responsibilities, required training, and necessary education for each occupation.

A

E

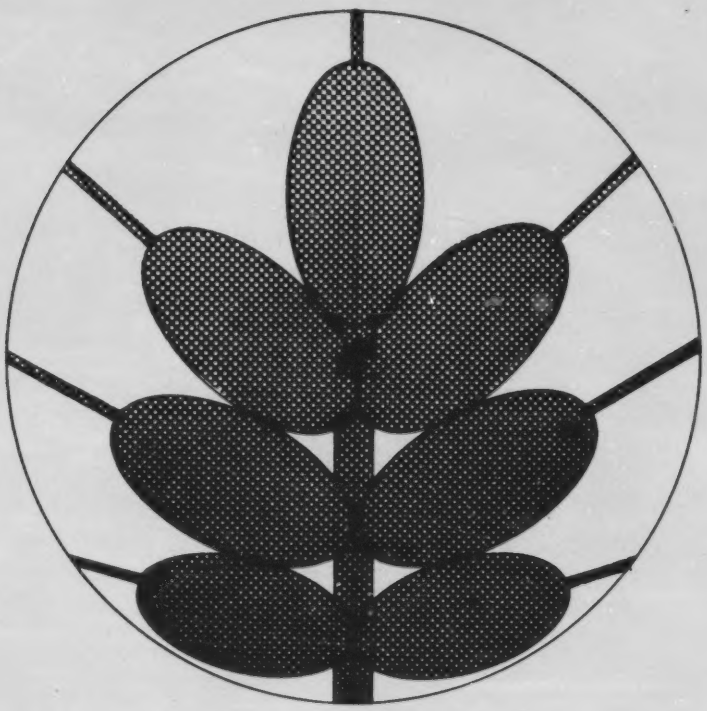
I

O

U

OCCUPATIONAL CLUSTERS

AGRI-BUSINESS AND NATURAL RESOURCES



OCCUPATIONAL CLUSTERS

ACTIVITY: Introducing the Agri-Business and Natural Resources Cluster

OBJECTIVE: After completing this activity, the student should be able to name at least two families of occupations within the cluster, and at least two occupations within each family.

APPROXIMATE TIME: 100 - 120 minutes

MATERIALS: Handout: Agri-Business and Natural Resources Careers; teacher reference: Agri-Business and Natural Resources Cluster; series of overlays (from transparency masters); various classroom resources (e.g., Dictionary of Occupational Titles, Occupational Outlook Handbook, Career World, magazines, and books); paper; pencil or pen

DIRECTIONS: Introduce the activity by using the series of overlay transparencies (see Appendix) to present the concepts of cluster, family, and occupation. Pass out copies of the handout. Then, ask students to give the names of two families and five occupations within one of the families and five occupations within one of the families. Write the names of the transparency as the students reply.

Discuss the nature and requirements for some of the familiar occupations. The teacher may wish to read aloud from a resource a description of one of the jobs. Then, give the names of some of the less familiar occupations and ask if students can describe them. For the totally unfamiliar occupations, ask for student volunteers to study the careers and report on them during the next class meeting. Request that the students who will present information to the class focus upon the educational, training, and physical requirements for occupations.

After students present their reports, the teacher may want to lead a general discussion about Agri-Business and Natural Resources Careers. Ask if any students are interested in a career in this cluster. Request that they share their interests with the rest of the class.

OCCUPATIONAL CLUSTERS

AGRI-BUSINESS AND NATURAL RESOURCES CAREERS

Definition: Those occupations involved in the growth, development, and production of raw materials.

Family of Occupations	Description of Family
Support and Regulation	Occupations involved in information and laws regarding land and natural resources
Research	Occupations involved in study of plants, animals, and natural resources
Forestry	Occupations involved in forest use
Land and Water Management	Occupations involved in public land and water use
Fisheries and Wildlife	Occupations involved in fish and wildlife use
Mining and Quarrying	Occupations involved in locating and mining raw materials from the land
Petroleum and Related Products	Occupations involved in oil and gas production
Productive Agriculture	Occupations involved in producing plants for food or ornamental use
Processing and Marketing	Occupations involved in purchasing and processing agricultural products
Service	Occupations involved in supplies and equipment

Family of Occupations	Examples of Occupations	D.O.T.
Support and Regulation	Food and Drug Inspector	168.267-042
	Mineral Inspector	168.267-074
	County Agriculture Agent	096.127-010
	Sheep and Goat Specialist	096.127-010
	Vocational Agriculture Teacher	097.227-014
Research	Agronomist	040.061-010
	Biologist	041.061-030
	Geneticist	041.061-050
	Soil Scientist	040.061-058
	Feed Research Aide	049.364-010

OCCUPATIONAL CLUSTERS

AGRI-BUSINESS AND NATURAL RESOURCES CAREERS (Continued)

Family of Occupations	Examples of Occupations	D.O.T.
Forestry	Forest Ranger	041.061-034
	Logger	454.684-018
	Saw Mill Worker	667.686-014
	Seed Cone Picker	453.687-010
	Forest-Product Gatherer	453.687-010
Land and Water Management	Surveyor	018.167-038
	Park Superintendent	188.167-062
	Water Tender	954.362-010
	Power Plant Operator	952.382-018
	Irrigation Engineer	005.061-022
Fisheries and Wildlife	Fish Farmer	446.161-010
	Gamekeeper	169.171-010
	Fish and Game Warden	329.167-010
	Bounty Hunter	461.661-010
	Trapper	461.661-010
Mining and Quarrying	Mining Engineer	010.061-014
	Coal Inspector	579.484-010
	Miner	939.281-010
	Shaft Tender	899.684-034
	Rock Drill Operator	850.683-034
Petroleum and Related Products	Geologist	024.061-018
	Seismic Prospector	024.061-026
	Driller	930.382-026
	Tool Pusher	930.130-010
	Roustabout	869.684-046
Productive Agriculture	Dairy Farmer	410.161-018
	Grain Farmer	401.161-010
	Cattle Rancher	410.161-018
	Beekeeper	413.161-010
	Tree Surgeon	408.181-010
Processing and Marketing	Broker	260.357-010
	Ginner	429.685-010
	Auctioneer	294.257-010
	Grain Elevator Operator	921.683-026
	Egg Candler	529.687-074
Service	Poultry Vaccinator	411.684-014
	Feed Mixer	520.685-098
	Veterinarian	073.101-010
	Tractor Mechanic	620.281-058
	Landscape Gardener	408.161-010

OCCUPATIONAL CLUSTERS

AGRI-BUSINESS AND NATURAL RESOURCES CLUSTER

Definition of Cluster

Those occupations involved in the growth, development, and production of raw materials.

Families of Occupations

Support and Regulations--Occupations involved in providing information and implementing the laws and regulations associated with this field.

Research--Occupations involved in the systematic study of plants, animals, and natural resources with emphasis on their use by man.

Forestry--Occupations involved in forest cultivation and the harvesting of forest products.

Land and Water Management--Occupations concerned with all aspects of the use of public lands and water resources.

Fisheries and Wildlife--Occupations concerned with the development and productive use of fish and wildlife.

Mining and Quarrying--Occupations concerned with locating and removing raw materials from the land.

Petroleum and Related Products--Occupations concerned with the production of petroleum and related products.

Productive Agriculture--Occupations concerned with producing food and fiber for productive use and plants for the purpose of man's aesthetic value.

Processing and Marketing--Occupations involved in purchasing and processing agricultural products before they are sent to the manufacturer.

Service--Occupations involved in supplying technical assistance, supplies, and equipment.

Examples of Occupations

Plant and Animal Quarantine Inspector
Soil Scientist
County Agricultural Agent
Botanist
Horticulturist
Forester
Sawmill Worker
Fish Farmer
Mining Engineer
Fish and Game Warden
Grain Farmer
Cattle Rancher
Cotton Compress Operator
Veterinarian
Feed Store Operator

OCCUPATIONAL CLUSTERS

ACTIVITY: Understanding the Importance of Agri-Business and Natural Resources Occupations

OBJECTIVE: After completing this activity, the student should be able to state one or more reasons why Agri-Business and Natural Resources Occupations are important.

APPROXIMATE TIME: 20 - 50 minutes

MATERIALS: Handout: Activity Sheet, chalkboard and chalk; pencils or pens; transparency (from transparency master)

DIRECTIONS: Begin a discussion by asking the students to identify three things that humans must have in order to survive. After the students have decided that the basic needs are food, clothing, and shelter, ask them to explain where these things come from. Write the following definition on the board and then discuss the term "raw materials."

Raw Materials--things that occur on the earth naturally

Explain to the class that primitive humans individually satisfied the three basic needs. Point out that today others supply most of raw materials needed to satisfy individual basic needs. Introduce the concept of "consumer" by writing and defining it on the chalkboard.

Consumer--person who uses goods or services to satisfy needs

Draw the following chart on the board and explain the importance of agri-business and natural resources occupations.

Raw Materials → Agri-Business & Natural Resources Occupations → Finished Products → Consumer

OCCUPATIONAL CLUSTERS

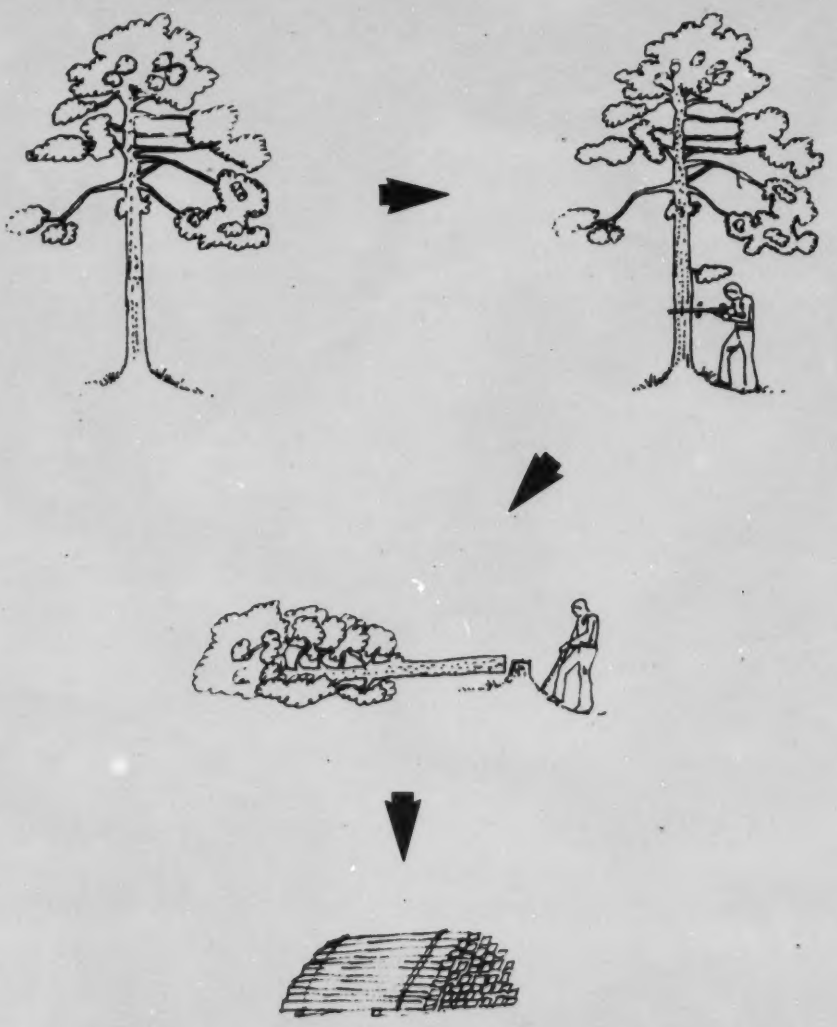
ACTIVITY SHEET

Instructions: Fill in the blanks with the correct word or words.

Raw Material	→	Agri-Business & Natural Resources Occupation	→	Finished Product
Wood	→	_____	→	Lumber
Dairy Cows	→	_____	→	Milk
_____	→	Rancher	→	Beef
Wheat	→	Grain Farmer	→	_____
Cotton	→	Cotton Farmer	→	_____
_____	→	Poultry Farmer	→	_____
Tomatoes	→	_____	→	_____
_____	→	_____	→	Leather Coats

OCCUPATIONAL CLUSTERS

RAW MATERIAL	→	AGRI-BUSINESS & NATURAL RESOURCES OCCUPATION	→	FINISHED PRODUCT
Wood	→	Logger Saw Mill Worker etc.	→	Lumber



OCCUPATIONAL CLUSTERS

ACTIVITY: Identifying Leaf Shapes

OBJECTIVE: After completing this activity, the student should be able to recognize the complexities of nature by identifying three or more leaf shapes.

APPROXIMATE TIME: 80 - 120 minutes

MATERIALS: Handout: Leaf Shape Record, pencil or pen, leaves (collected by students), transparency (from transparency master)

DIRECTIONS: Introduce the activity by making the following comments.

> This activity is intended to show that natural resources careers are not simple and boring, but that nature is complex and interesting.

Ask the students to guess the number of different leaf shapes that exist in the real world. Follow up the question by asking if anyone knows of a way to classify leaf shapes. (If a student should know leaf classification, then have that student act as a resource person.)

Using the transparency, point out that there are at least nine different shapes identified by horticultural plant scientists. Discuss the name and characteristics of each of the nine leaf shapes. Distribute copies of the handout. Ask students to find and record as many of the different leaf shapes as possible. Encourage them to walk through their neighborhood or park. Students should make a mark in the appropriate box each time they find a different kind of leaf that belongs to one of the leaf shape classes. Also, they should make a brief note regarding where the leaf was found. Ask them to bring examples of leaves, in addition to the completed handout, to the next class meeting.

After students have completed the above tasks, ask students to show their leaves and record forms to one another. Discuss the variety of leaf shapes and kinds. See if students can name the trees from which the leaves

came. Tell students that a number of agri-business and natural resources careers are concerned with leaves. For example, all of the following persons would need to know about the characteristics of leaves:

Ornamental Horticulturist
Forester
Botanist
Forestry Science Teacher
Park Guide
Conservationist

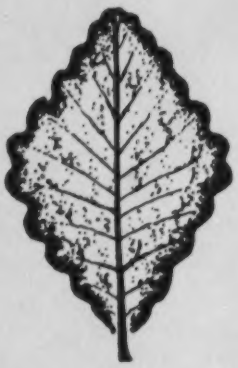
Point out that careers from this cluster can be quite "artistic" or "scientific" in nature. Stress the fact that the variety in nature insures that careers in the natural world will be interesting.

OCCUPATIONAL CLUSTERS

Linear--like a line

Oblong--like a rectangle

Spatulate--like a spatula



Rhomboid--like a rhombus

Deltoid--like a delta or triangle

Round--like a circle

Reniform--like a kidney

Oval--like an egg

Cordate--like a heart (turn the transparency upside down)

TM-1

OCCUPATIONAL CLUSTERS

Linear Where:	Oblong Where:	Spatulate Where:
Rhomboid Where:	Deltoid Where:	Round Where:
Reniform Where:	Oval Where:	Cordate Where:

OCCUPATIONAL CLUSTERS

ACTIVITY: Locating Agri-Business and Natural Resources Regions

OBJECTIVE: After completing this activity, the student should be able to point out on a map at least one agricultural and one mineral region.

APPROXIMATE TIME: 80 - 110 minutes

MATERIALS: Handout: State Map; teacher references: Texas Agriculture Regions, Texas Mineral Region, pencil, colored pens; classroom resources: map, atlas, encyclopedia; optional: home resources, such as state almanac

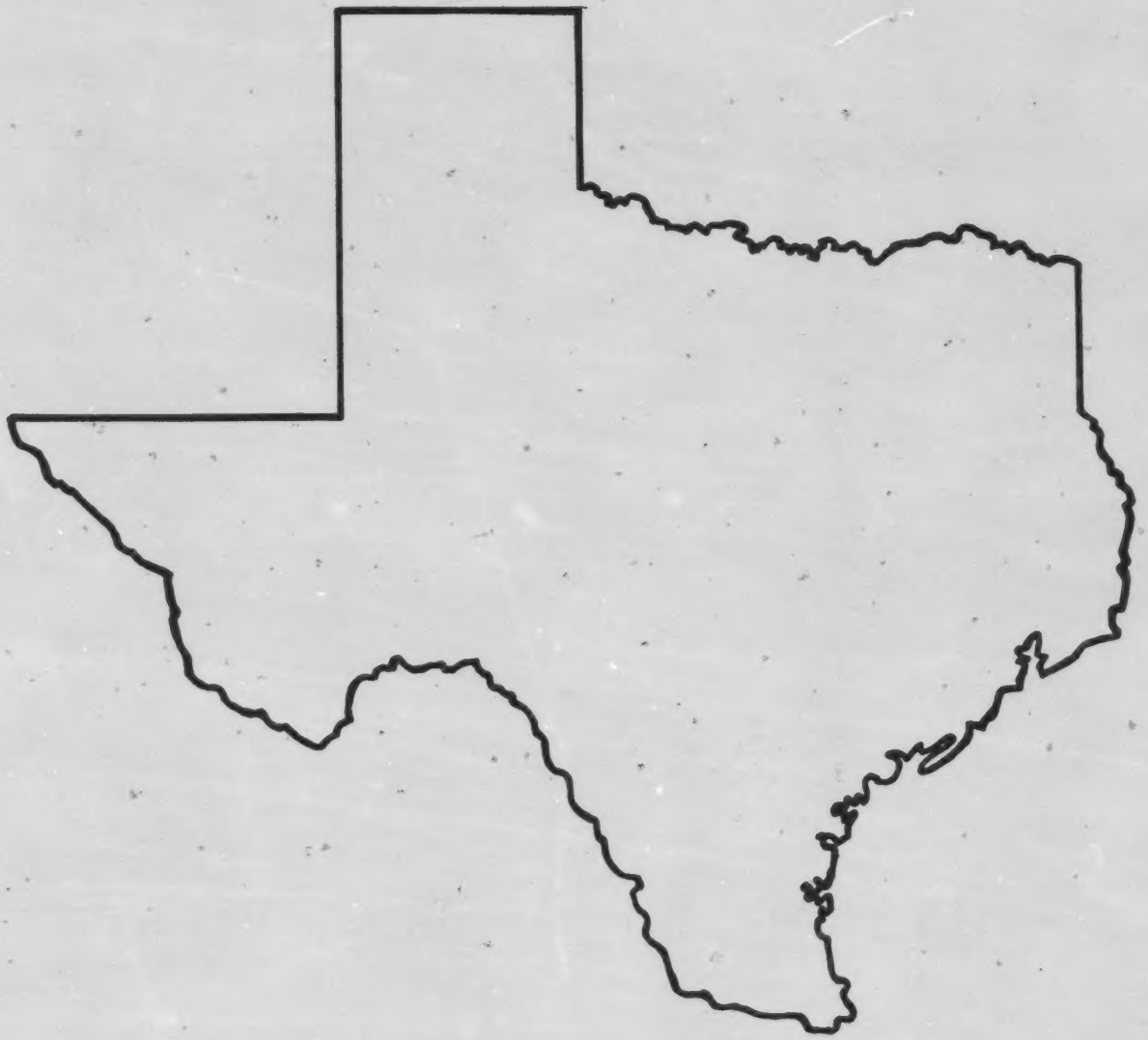
DIRECTIONS: This activity may be conducted in the classroom or assigned as homework. The task involves tracing or drawing regional lines on a state map and then identifying the agricultural or mineral resources common in the regions.

Distribute two copies of the handout to each student. Explain the assignment to the students. Suggest that they use different colored pens or pencils to draw and shade the regions. Point out to those students who are interested in mining or farming that they should be aware of the characteristics of the region in which they would like to work. For example, someone interested in working in the field of lumber or iron ore would need to move to East Texas. Also, this person should study the climate, economy, and social characteristics of the region upon lifestyle.

The activity may also focus upon mapping another state, a specific county, or a large region within the USA.

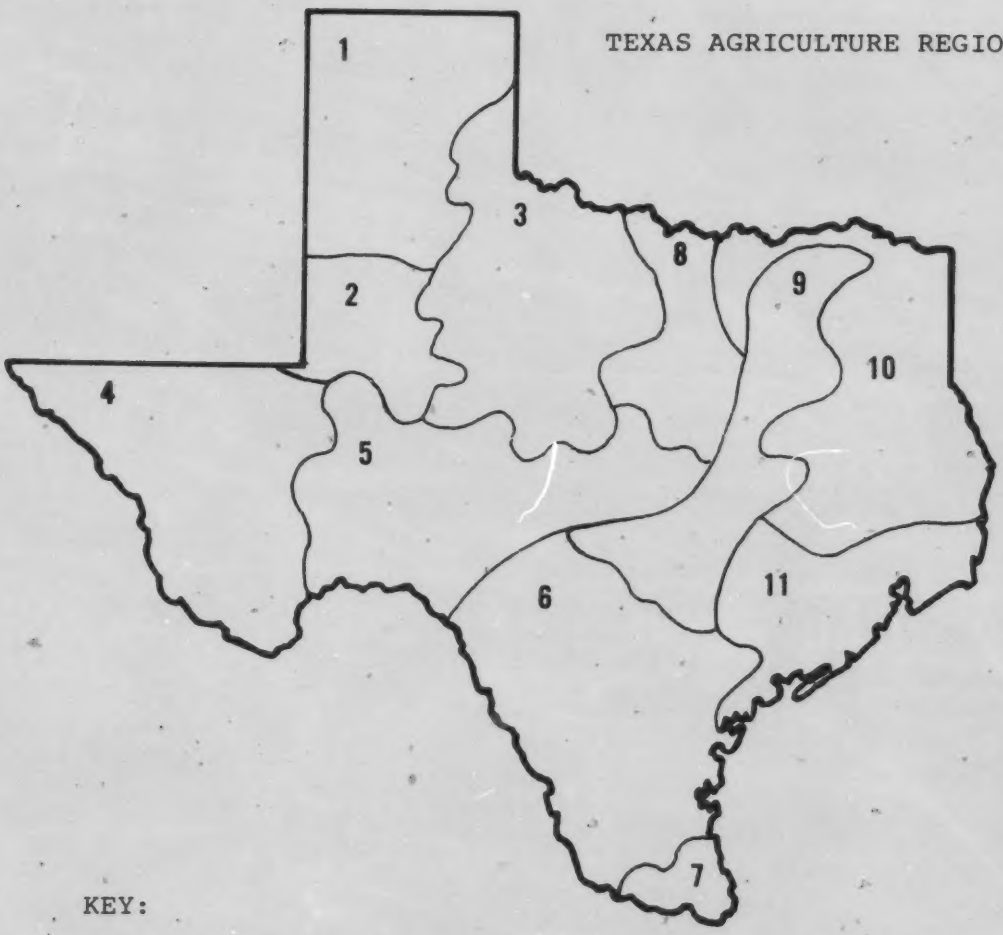
OCCUPATIONAL CLUSTERS

STATE MAP



OCCUPATIONAL CLUSTERS

TEXAS AGRICULTURE REGIONS



KEY:

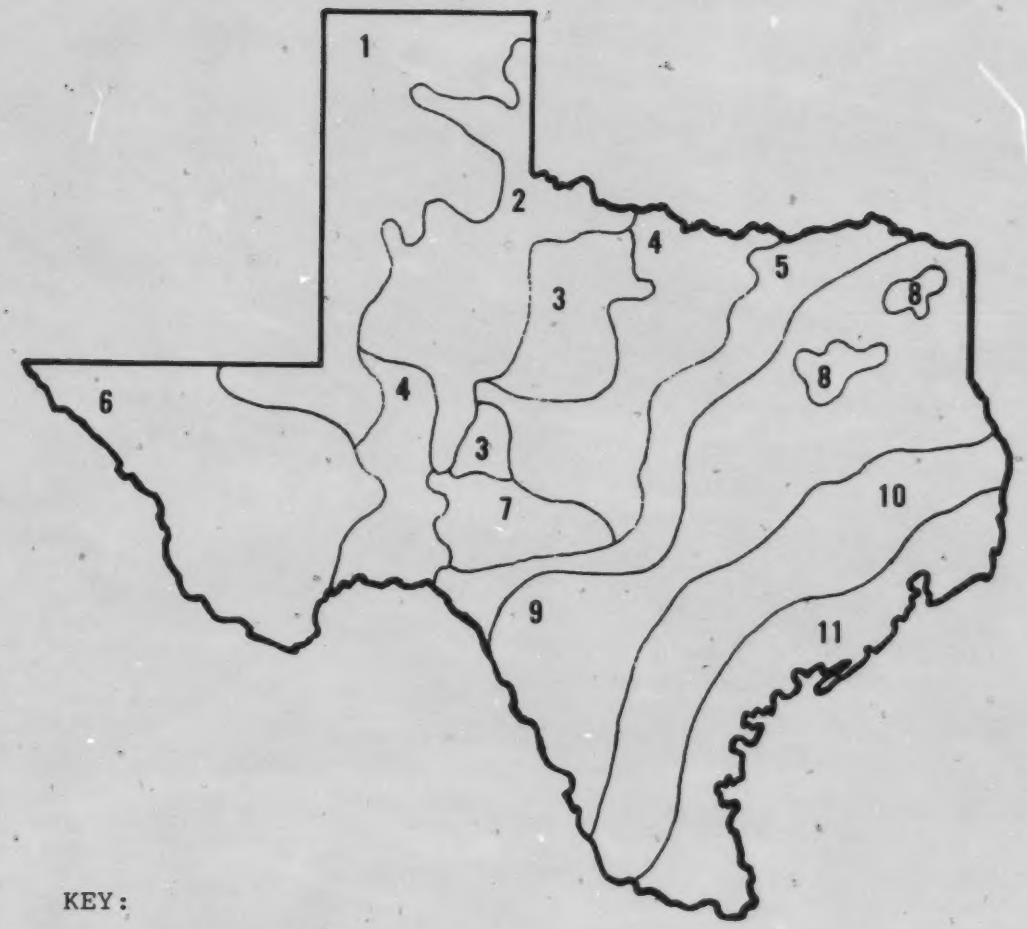
Region		Agricultural Code
1.	Northern High Plains	a,b,c
2.	Southern High Plains	a,b,d
3.	Rolling Plains and Prairies	b,e,f
4.	Mountains & Basins	b
5.	Edwards Plateau & Central Basin	a,g,h
6.	South Texas Plain	i,j,k,m
7.	Lower Rio Grande Valley	a,k,l
8.	West Cross Timbers	e,i,m
9.	Blackland	a,b,m,p
10.	East Texas Farm & Timber	e,n,p
11.	Coastal Prairie	a,b,m,n

Agriculture

a--cattle
b--cotton
c--wheat
d--sorghum
e--livestock
f--small grains
g--sheep
h--goats
i--peanuts
j--flax
k--vegetables
l--citrus fruit
m--dairy products
n--lumber
o--rice
p--poultry

OCCUPATIONAL CLUSTERS

TEXAS MINERAL REGIONS



KEY:

Region	Mineral Code
1	p,t
2	b,c,d,e
3	c,k
4	a,c,k,l
5	i,j
6	d,q,r,s,u
7	g,m,n,o
8	g
9	b,c,d,e
10	c,e
11	a,b,c,d,t

Minerals

a-sulphur
b-salt
c-clay
d-gypsum
e-mangesium
f-lignite
g-iron ore
h-uranium
i-asphalt
j-coal
k-limestone
l-sodium sulphate
m-granite
n-graphite
o-vermiculite
p-gravel
q-zinc
r-talc
s-mercury
t-sand
u-flourite

OCCUPATIONAL CLUSTERS

BUSINESS AND OFFICE

OCCUPATIONAL CLUSTERS

ACTIVITY: Introducing the Business and Office Cluster

OBJECTIVE: After completing this activity, the student should be able to name at least two families of occupations within the cluster and give at least two occupations within each family.

APPROXIMATE TIME: 100 - 120 minutes

MATERIALS: Handout: Business and Office Careers; teacher reference: Business and Office Cluster; various classroom resources (e.g., Dictionary of Occupational Titles, Occupational Outlook Handbook, Career World, magazines, encyclopedia, and books); paper; pencil or pen; series of overlays (from transparency masters)

DIRECTIONS: Introduce the activity by using the series of overlay transparencies (see Appendix) to present the concepts of cluster, family and occupation. Pass out copies of the handout. Then, ask students to name two families and five occupations within one of the families. Write the names on the transparency as the students reply.

Discuss the characteristics and requirements for some of the more familiar occupations. Read aloud from a resource a description of one of the jobs. Next, give names of some of the less familiar occupations. Ask if any student can describe the occupations. Request that some students volunteer to study and then report on unfamiliar careers. Tell these students to focus on the educational, physical, and training requirements for the occupations. Schedule an order of presentation for the next meeting. Presentations should range from five to ten minutes each.

After students present their reports, lead a discussion about business and office careers. Ask for students who are considering careers in the cluster to share their interests and job-related experiences with the class.

OCCUPATIONAL CLUSTERS

BUSINESS AND OFFICE CAREERS

Definition: Those occupations involved in the management and support of business and offices.

Family of Occupations	Description of Family
Accounting	Occupations involved in methods of keeping and explaining financial records
Computer	Occupations involved in electronic data processing
Secretarial Science	Occupations involved in record keeping, writing, editing, and taking dictation.
Management	Occupations involved in planning and organizing personnel activities
Personnel	Occupations involved in recruiting, interviewing and hiring employees
Finance	Occupations involved in money management
Clerical	Occupations involved in supporting on-going office operations

Family of Occupations	Examples of Occupations	D.O.T
Accounting	Cost Accountant	160.167-018
	Tax Accountant	160.162-010
	Bookkeeper	210.382-014
	Accounting Clerk	216.482-010
	Statistician	020.167-026
Computer	Systems Analyst	012.167-066
	Key-Punch Operator	203.582-030
	Programmer	020.162-014
	Tape Librarian	206.387-030
	Computer Systems Engineer	003.167-062
Secretarial Science	Stenographer	202.362-014
	Legal Secretary	201.362-010

OCCUPATIONAL CLUSTERS

BUSINESS AND OFFICE CAREERS (Continued)

Family of Occupations	Examples of Occupations	D.O.T.
Secretarial Science	Medical Stenographer	202.362-014
	Court Reporter	202.362-010
	Court Clerk	243.362-010
Management	Management Trainee	189.167-034
	Public Relations Representative	165.067-010
	Supervisor of Sales	185.157-014
	Export Manager	163.117-014
	Training Instructor	166.277-010
Personnel	Recruiter	166.267-026
	Personnel Clerk	209.362-026
	Job Analyst	166.267-018
	Personnel Monitor	199.167-010
	Interviewer	205.362-014
Finance (Insurance/ Real Estate)	Bank President	186.117-054
	Credit Manager	186.167-022
	Insurance Claim Auditor	241.267-018
	Actuary	020.167-010
	Real Estate Broker	250.357-018
Clerical	File Clerk	206.362-010
	Order Clerk	241.367-054
	Receptionist	237.367-038
	Typist	203.582-066
	Cashier	211.362-010

OCCUPATIONAL CLUSTERS

BUSINESS AND OFFICE CLUSTER

Definiton of Cluster

Those occupations involved in the management and organizational support of the functions of business and offices.

Families of Occupations

Accounting--Occupations involved in systematic methods of keeping, analyzing, and explaining records

Computer--Occupations concerned with electronic methods of organizing, storing, and retrieving data.

Secretarial Science--Occupations concerned with keeping records, taking dictation, composing, editing, and writing.

Management--Occupations concerned with planning and organizing the activities of personnel

Personnel--Occupations concerned with recruiting, interviewing, hiring, keeping records regarding the employment of individuals.

Finance--Occupations with functions related to money management.

Clerical--Occupations concerned with performing duties which support systems and procedures of offices.

Examples of Occupations

Bookkeeper
Cost Accountant
Console Operator (computer)
Computer Tape Librarian
Stenographer
Supervisor
Personnel Records Clerk
Financial Analyst
Bank Teller
Bank Auditor
Clerk Typist
Business Machine Operator
Receptionist
Legal Secretary
Programmer (computer)

OCCUPATIONAL CLUSTERS

ACTIVITY: Participating in Business Activities

OBJECTIVE: After completing this activity, the student should be able to give three or more examples of activities or tasks required to operate a small business.

APPROXIMATE TIME: 300 - 500 minutes

MATERIALS: Paper, pen, pencil, and other typical classroom supplies; paper money; other materials obtained by students

DIRECTIONS: This activity is designed for use with two classes or sections. One class will be the business persons and one class will be the consumers. The teacher may wish to switch the roles of the two classes so that each has an opportunity to participate in business operations and personal money management. Also, the activity can be coordinated with an activity or unit of instruction concerned with consumer education. The activity allows initiative and creativity in students.

The class should be divided into small groups of three or four students, either through student choice or teacher assignment of students. Tell the students that they will be responsible for planning, producing, and marketing a product or service for the student consumer class, "the consumers." Inform them that they will make all decisions and perform all the necessary activities required to run their business.

List on the board and discuss the variety of possible activities needed to make the businesses successful.

Activities

selecting a manager
selecting a secretary
selecting an accountant or bookkeeper
deciding what the product or service will be
deciding how to make and sell the product

recruiting help in making the product or providing the service
planning the marketing of the product/service
producing advertising or public relations for the product or service
managing the business
selecting a cashier
selling the product or service
determining the profit or the business
reporting on the success of the business

After students have ideas regarding required and optional business activities, list and discuss possible business ventures.

Examples of Products and Services

book covers with special artwork (e.g., collages)
decorative posters or pictures
sturdy desk organizers or jewelry boxes
comic books
decoupage slogans or poetry on wood
paper weight
necklace or bracelet
macrame
rug or mat
cardboard marionette
abacus or fraction-board
flannel board
weather vane
stencil set
note (Valentine) delivery service
clean-up service (may be "hired" by other groups)
study or report service
tutoring service
counseling/problem-solving service
telephone message service
artwork service (may be "hired" by other groups)

Tell students that whatever business they select, records must be kept and weekly progress reports must be given to the class. From the range of products and services above, it is apparent that some groups may work together or use one another's products and services well before "Sale Day," the date when consumers will be given the opportunity to buy the products or services.

Before asking groups to meet to select activities and a product/service, the teacher should provide each group $1,000 in various denominations of play money. This money is the working capital for each business. All classroom supplies--e.g., paper, cardboard, glue, colored pens, felt, paints, old magazines--must be purchased from the teacher by a group member. The prices for various materials must be reasonable and set in advance by the teacher. Also, the capital may be used to pur-

chase products or services from other groups. Every group or business should have someone responsible for maintaining detailed financial records of expenses and profits.

After providing the ground rules which were discussed above, the teacher should make an assignment. Each group must be prepared to report at the next class meeting about: (1) the product or service selected as a business venture by group members, (2) the name of the business, (3) the jobs and titles of group members thus far, (4) the activities that were completed and that are planned for the near future and (5) any special reports or requests--for example, a request for a service needed by the group. Student groups should be given the opportunity to briefly meet on the first day of the activity. Some work outside of class may be required to plan and produce products and services.

Provide students approximately three class meetings, ideally spread over three weeks, to plan and conduct business activities. Some groups may wish to do most of the production work in class. Others may wish to plan marketing strategies during class time. At each of the three class meetings, a member of every group will provide a report to the rest of the class. The report should be similar to the one in which the business ventures were presented. Business reports should include at least a brief statement of activities and plans, as well as changes from previous reports. The report time will also serve as an opportunity for exchanges of products or services between groups.

On "Sale Day," each business should have a booth, table, or specific location for conducting operations. At least one person in each business must act as cashier. "The consumers" from the other class should be given play money in an amount that will allow each student to purchase one product or service. Therefore, the teacher must be aware of the approximate prices that the businesses will charge. Use the class period for buying and selling. Allow time for the businesses to set up and then clean up.

Final reports and financial statements will be given during the class meeting after "Sale Day." After the reports, the teacher should lead a general discussion about the various activities required to run even a small business. Business persons should follow-through with the providing of products and services to the consumer student group. Ideally, the consumer group would then organize businesses in order to give the business students chances to obtain products and services.

OCCUPATIONAL CLUSTERS

ACTIVITY: Interviewing a Person in a Business and Office Occupation

OBJECTIVE: After completing this activity, the student should be able to describe the duties, requirements, advantages, and disadvantages of at least one occupation within the business and office cluster.

APPROXIMATE TIME: 50 - 150 minutes

MATERIALS: Handout: Interview Form, (from Appendix Three), pencil or pen, tape recorder and tape (optional)

DIRECTIONS: Distribute copies of the handout (Appendix Three). Ask students to select one occupation of interest from the business and office cluster. Tell them to contact someone who presently has a job within the occupation. Students should interview the persons, using the handout as a guide and a recording sheet. If a tape recorder and tape are available, ask one or more students to record their interviews for playback to the class. Request that students finish the interviews in time to briefly report their findings to the class at the next class meeting. After the reports, ask if anyone learned anything new or surprising about a business and office occupation.

OCCUPATIONAL CLUSTERS

ACTIVITY: Communicating on a Business Telephone

OBJECTIVE: After completing this activity, the student should be able to demonstrate proper telephone use and conversation.

APPROXIMATE TIME: 110 - 180 minutes

MATERIALS: Handouts: Telephone Conversations Information Sheet, Evaluation Form; teacher reference: Example: Situation Cards; Tele-Training equipment--contact the supervisor for educational relations of the local telephone company for delivery to school; pen or pencil

DIRECTIONS: Arrange about a month before the activity date to have the Tele-Training equipment delivered to the school. Based on the Example, prepare at least three sets of cards which describe situations involving the use of the telephone.

On the day before actually using the equipment, pass out the handouts and discuss telephone conversation skills. Ask for volunteers to role-play the situations. Tell other students that they will constructively evaluate the conversation in one of the situations. Give the situation cards to the role-players.

Set up the equipment and practice using the control box. Conduct the first role-playing situation. Obtain the Evaluation Forms and share some of the comments with the role-players and the rest of the class.

Complete the role-playing situations, collecting Evaluation Forms, and discussing the exercises as before. Point out that a telephone conversation is often a customer's first contact with the company.

OCCUPATIONAL CLUSTERS

TELEPHONE CONVERSATIONS INFORMATION SHEET

A good telephone voice requires practice and giving attention to the following:

1. Volume (loudness)
2. Pitch (high or low tone)
3. Pace (speed)
4. Use of inflections (varying the pitch)
5. Proper enunciation of words (speaking clearly)
6. Correct pronunciation of words

You have probably had telephone conversations with people who spoke so loudly that it was necessary to hold the receiver away from your ear. Such a loud, booming voice tends to cause the listener to resist what is being said. You may have had telephone conversations with someone who spoke so softly that listening was a strain. A volume which is loud enough to be easily heard but not so loud that it is offensive is the most effective for communication.

A high-pitched telephone voice tends to make the listener tense and is not very effective in influencing others or gaining their co-operation. A medium to low pitch is pleasant and most effective for communication.

The pace (speed) at which one speaks also has an effect on the listener. Speaking too slowly can cause the listener to either think about the sluggish rate of speech instead of what is being said or become bored while waiting for the speaker to finish talking. Speaking too fast may make it difficult for the listener to understand what is being said, and it also is irritating. A medium speed is most pleasant to the listener. Some variation of speed adds interest.

The use of variations of the pitch adds interest and is good for emphasizing a point. It is easy for the listener to become bored when hearing the same monotonous voice.

In order to be easily understood, you should pronounce all words properly. "Slurring" words does not make a good impression on people in the business world.

Also, you must speak correctly to gain the respect and good will of the listener. The point you may be trying to make can be misunderstood, simply because a few important words were not pronounced correctly.

Courtesy is just as important in telephone conversations as it is in face-to-face conversations. Being courteous and using such expressions as "Please," "Thank you," and "May I help you?" will establish a good business relationship. Nothing so valuable costs so little as courtesy. It's free! Probably the most discourteous thing that happens in telephone conversations is interrupting the person speaking.

When your phone rings at home, you probably pick up the receiver and answer, "Hello." That's fine for your home phone, but it is not the correct way to answer a business phone. In respect to the person calling, it is proper to answer a business phone by first giving the name of the company, then your own name.

OCCUPATIONAL CLUSTERS

EVALUATION FORM

Beginning of Call

1. Answered phone quickly and politely. _____
2. Gave his/her identification. _____

During the Call

1. Gave helpful information. _____
2. Asked questions politely. _____
3. Recorded message carefully. _____
4. Checked information in message. _____

Closing of Call

1. Made sure the conversation was complete before hanging up. _____
2. Was polite when saying good-bye. _____

Voice Personality

1. Spoke clearly. _____
2. Spoke directly into the mouthpiece. _____
3. Used good grammar; did not use slang. _____
4. Said "thank you" and "please." _____
5. Used a medium to low pitch. _____
6. Pronounced words correctly. _____
7. Spoke at a medium speed. _____
8. Was friendly and sincere. _____

If I had been the caller I would have been happy because _____

_____

_____

If I had been the caller I would not have liked _____

_____

_____

Situation # _____ Person being evaluated _____

OCCUPATIONAL CLUSTERS

EXAMPLE: SITUATION CARDS

These are examples of situations that can be transferred to index cards to be given to the students selected to participate in this part of the activity.

Situation #1:

Caller's Card--You have been expecting an order of materials from a company and it is late arriving. You are very upset because you need these materials for your business. You place a long distance call to ABC Company to find out what happened to your order. The telephone number is: (713) 455-6302. Ask to speak to Mr. Blake in the Shipping Department.

Before you place the call make up a name for yourself and your business. Decide just what you have ordered and the date you ordered it.

Receiver's Card--You are the secretary for Mr. Blake who is Supervisor of Distribution for ABC Company. You receive a phone call from a customer who is very unhappy because he has not received an order that was placed some time ago. Your boss has just stepped out of the office. How would you handle this call?

Situation #2:

Caller's Card--You are the secretary for Mr. Smith. He has just asked you to call the Resort Inn in Dallas to make reservations for him for two nights while he is in Dallas on business. The telephone number is: (214) 667-5983.

Before you place the call make up the dates that Mr. Smith will be in Dallas. Also decide what kind of room Mr. Smith wants and what time he will be arriving at the Resort Inn.

Receiver's Card--You are the Reservations Clerk at the Resort Inn in Dallas. You receive a telephone call requesting reservations. You must be sure to get all of the information that is necessary from the caller. How would you handle this call?

Situation #3:

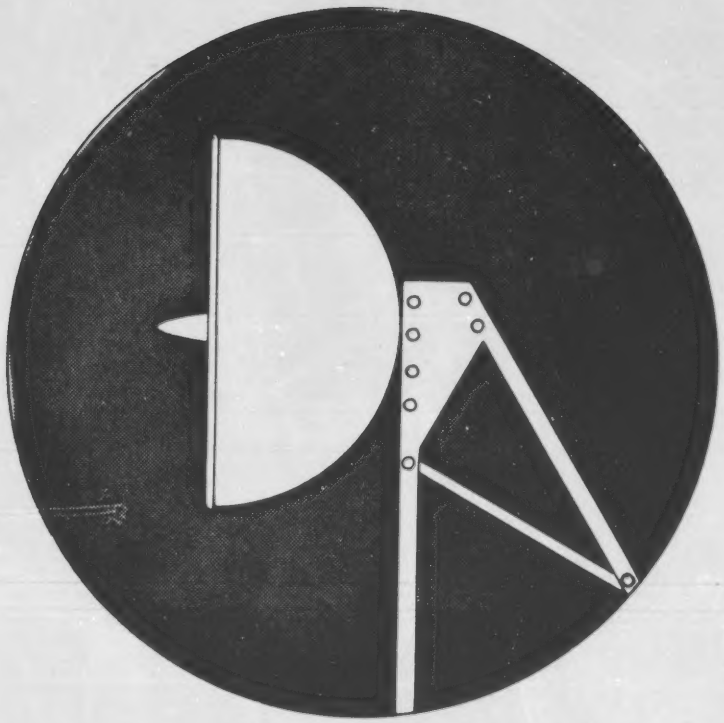
Caller's Card--You are really mad!!! You have invited several friends over to watch the Superbowl Game. Two minutes after the kick-off your television cable went on the blink. You call Capitol Cable Company to complain and demand that it be fixed immediately! The telephone number is: 385-7854.

Receiver's Card--You are the receptionist for Capitol Cable Television Company. You work on Sundays to answer the telephone and take

messages. There are no technicians working today,and no one is available to make repairs. You receive a call from a very unhappy customer who is complaining about the service. How would you handle this call?

OCCUPATIONAL CLUSTERS

COMMUNICATIONS AND MEDIA



OCCUPATIONAL CLUSTERS

ACTIVITY: Introducing the Communications and Media Cluster

OBJECTIVE: After completing this activity, the student should be able to name at least two families of occupations within the cluster and give at least two occupations within each family.

APPROXIMATE TIME: 100 - 150 minutes

MATERIALS: Handout: Communications and Media Careers; teacher reference: Communications and Media Cluster; various classroom resources (e.g., Dictionary of Occupational Titles, Occupational Outlook Handbook, Career World Magazines, encyclopedia, and books), paper; pencil or pen; series of overlays (from transparency masters in Appendix One).

DIRECTIONS: Introduce the activity by using the series of overlay transparencies (see Appendix One) to present or reinforce the concepts of cluster, family, and occupation. Pass out copies of the handout. Ask students to name two families and five occupations within one of the families. Write the names on the transparency as the students reply.

Discuss the characteristics and requirements for some of the more familiar occupations. Read a description of one of the familiar occupations--taken from some resource before the date of the activity. Then, give the names of some of the less familiar occupations within the cluster. Ask for student volunteers to study the occupations and prepare brief job descriptions for the next class meeting. Request that the students prepare for a five- to ten-minute report which will focus on the educational, physical, and training requirements for the various occupations.

After students present the reports, allow other students to question them about the occupations. Questions that cannot be answered by the student presenters should be listed on the board. Ask other students to find answers for the questions and prepare brief reports for the next class meeting.

OCCUPATIONAL CLUSTERS

COMMUNICATIONS AND MEDIA CAREERS

Definition: Those occupations involved in the designing and giving of information or messages.

Family of Occupations	Description of Family
Journalism	Occupations involved in writing and editing newspapers, books,and magazines
Motion Pictures	Occupations involved in making movies
Telephone and Telegraph	Occupations involved in sending and receiving messages.
Recording Industry	Occupations involved in making records and tapes.
Radio Television Broadcasting	Occupations involved in preparing radio and television programs
Satellite and Laser Transmission	Occupations involved in sending and receiving information over long distances

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Family of Occupations	Example of Occupation	D.O.T.
Journalism	Foreign Correspondent	132.267-018
	Proofreader	209.387-030
	Book Critic	131.067-018
	Newspaper Editor	132.017-014
	Crossword Puzzle Maker	139.087-010
Motion Pictures	Producer	187.167-174
	Art Director	142.031-010
	Script Writer	131.087-018
	Special Effects Specialist	962.281-018
	Property Handler	962.687-022
Telephone and Telegraph	Telegram Messenger	230.667-010
	Radio Telephone Operator	193.262-034
	Telegraphic Typewriter Installer	822.381-010
	Line Repairer	822.381-026
	Pole Framer	959.884-010

OCCUPATIONAL CLUSTERS

COMMUNICATIONS AND MEDIA CAREERS (Continued)

Family of Occupations	Example of Occupation	D.O.T.
Recording Industry	Musician	152.041-010
	Studio Engineer	003.167-018
	Arranger	152.067-010
	Composer	152-067-014
	Dubbing Machine Operator	194.362-010
Radio and Television Broadcasting	Copyright Expert	249.262-010
	Sound Effects Technician	962.281-010
	Announcer	159.147-010
	Broadcast Checker	249.387-010
	Radio Repairer	720.281-010
Satellite and Laser Transmission	(In this new and growing field, occupations have not yet been fully classified. Research and engineering are important present-day activities.)	

OCCUPATIONAL CLUSTERS

COMMUNICATIONS AND MEDIA CLUSTER

DEFINITION OF CLUSTER

Those occupations involved in the design, preparation, and transmission of information and messages.

Families of Occupations

Journalism--Occupations involved in the writing and editing of newspapers, books, and magazines.

Motion Pictures--Occupations concerned with the production of motion pictures.

Telephone and Telegraph--Occupations concerned with local and long distance transmission of messages.

Recording Industry--Occupations involved in the production of recorded sound, and tapes and discs.

Radio and Television Broadcasting--Occupations involved in the preparation, production, and transmission of materials for radio and television broadcasts.

Satellite and Laser Transmission--Occupations involved in the transmission of information by satellite or laser.

Examples of Occupations

Columnist
Critic
Proofreader
Cartoonist
Special Effects Cameraman
Film Editor
Telephone Operator
Movie Producer
Television Director
Announcer
Control Room Technician (television studio)
Video Console Operator
Sound Effects Person
Magazine Editor
Cable Lay-Out Person (telephone and telegraph)

OCCUPATIONAL CLUSTERS

ACTIVITY: Communicating Effectively

OBJECTIVE: After completing this activity, the student should be able to describe at least one requirement for effective communication.

APPROXIMATE TIME: 40 - 50 minutes

MATERIALS: Teacher reference: Designs for Activity; chalkboard and chalk

DIRECTIONS: Prior to beginning the activity, copy the designs from the teacher reference onto three large index cards. The design for Group I will be copied on one card, the design for Group II on another card, and so on.

Select six students to participate in the demonstration. Assign the students to three groups--I, II, and III--each having a Player A and a Player B. Each of the groups will attempt to copy the design from the card onto the blackboard. Player A will look at the card and give directions to Player B who will actually draw at the chalkboard.

In the Group I demonstration, Player A faces the class and Player B faces the board. They cannot see each other. Player A should give the best instructions possible to Player B since Player B cannot ask questions or make any comments. Player A must give directions without looking at Player B's work on the board. After two minutes, stop this exercise and discuss the problems of the two players. Point out that this demonstration is like radio: "You give out information, but you don't know how it is interpreted when it's received."

In the Group II demonstration, Player A and Player B still cannot see one another; however, they can talk back and forth. Player B can ask questions. After two minutes, stop this exercise and discuss the progress of the two players. Point out that the demonstration is similar to a telephone conversation, since there is a sharing of information. Another strength of this approach is that the two players can affect each other's work through questions, requests to slow down and so forth. Stress that mutual

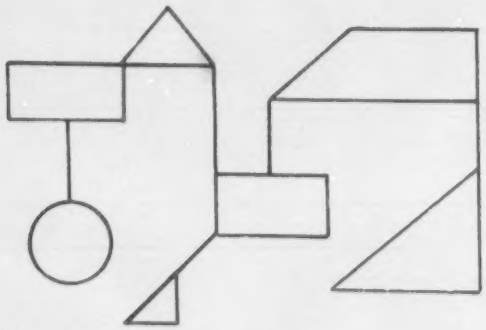
sharing of information is a requirement for effective communication.

For the Group III demonstration, Player A may face Player B and the two players may talk freely. Since the players can see one another, they can exchange visual information or body language. For example, Player A could point the direction for the drawing of a line. Also, with outstretched arms, Player A could indicate the sizes of the various parts of the design. Stop the exercise after two minutes. Point out that face-to-face communication may be a requirement for effective communication. Stress that some visual information is usually required for effective problem-solving communication. Discuss the importance of "showing someone how to do it" in the world of work.

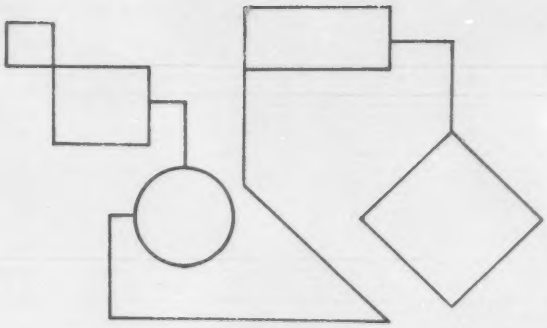
Designs for Activity

Copy the following designs onto large index cards.

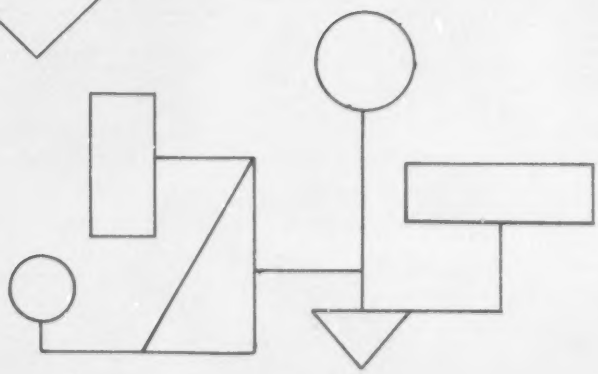
GROUP I



GROUP II



GROUP III



OCCUPATIONAL CLUSTERS

ACTIVITY: Learning About Television Production

OBJECTIVE: After completing this activity, the student should be able to list and describe three or more jobs required to produce a television newscast.

APPROXIMATE TIME: 110 - 200 minutes

MATERIALS: Handouts: Students Roles (on individual 4 x 6 index cards), Activity Sheet; chalkboard and chalk; construction paper and markers; videotape recording equipment (if available); classroom resources

DIRECTIONS: Introduce the activity by describing typical occupations involved in producing a television newscast. Explain to the students that the classroom will become a "television studio." They will be responsible for planning and producing a complete news program.

At the first class meeting, assign the various roles and distribute the handouts that describe the occupations and their tasks. Roles may be assigned according to student level or by some random method. Some students may wish to volunteer for specific roles due to occupational interests. Before production can begin, the students must investigate their roles by using classroom resources to complete the Activity Sheet.

During the second class meeting, have students prepare for the production. Tell the students to begin working on their specific job assignments. Due to the nature of the tasks, some students will work in groups while others work individually. Students should assume their roles while planning the production. For example, the producer is responsible for checking on the progress of the activities of the students, direct rehearsal, and manage the preparation and the "live" production. However, the teacher should check on progress and help as needed.

When the students finish their preparations, the producer should discuss the production schedule and answer the question. The teacher may be needed to assist with organizing the "live" program. Remind students to bring needed props from home for the "recording session" at the next class meeting.

The third class meeting will involve acting-out and recording (if equipment is available) the newscast. If recording equipment is not available, then students from another class may participate as an audience. If videotape recording equipment cannot be obtained, then an audio recorder may be used.

The production team and prop manager should arrive before the class meeting to set up the furniture, props, equipment, and decoration. When everyone is ready, the "show" can begin. Since the program is a "live telecast," the action must continue until the production is ended. After completing the newscast, discuss the activity with the students. Play back the recording if one was made.

OCCUPATIONAL CLUSTERS

STUDENT ROLES

Note to Teacher: Write the following roles on individual 4 x 6 index cards to be given to the students.

1. News Reporter--You will write three news stories. Each story should be about one minute long and should include all important facts. You can make up the stories or use news stories that you have heard on television. Try to write your stories in the style used by reporters.

2. Sports Reporter--You will write information about several sports events. Include the following: latest scores, a short "human interest" story about a local or famous sports figure, and information about all upcoming events. Your presentation should be about three minutes long.

3. Weather Person--Make up and write the news about the weather across the nation, the state, and locally. Be sure to include a forecast for the next day's weather. Your presentation should be about three minutes long.

4. Commercial Writer--You will work in a group of three persons. Your group will plan, write, and perform a commercial about a new brand of dog food. Make up a name for the dog food. You must make or bring from home any props you will need.

5. Commercial Writer--You will work in a group of three persons. Your group will plan, write, and perform a commercial about a new brand of shampoo. Make up a name for the shampoo. You must make or bring from home any props you will need.

6. Commercial Writer--You will work in a group of three persons. Your group will plan, write, and perform a commercial about a new brand of soft drink. Make up a name for the soft drink. You must make or bring from home any props you will need.

7. Television Announcer--You will write and say the introduction and closing of the telecast. You will also introduce the members of the news team at the appropriate time (example: "Here is (NAME) with the latest from the world of sports.")

8. Camera Operator (or Tape Recorder Operator)--You will run the equipment used to record the program. Practice working with the equipment so that you will not make any mistakes. Work with the props manager in deciding where and how your equipment will be set up.

OCCUPATIONAL CLUSTERS

STUDENT ROLES (Continued)

9. Props Manager--You must decide what furniture and equipment is needed and where to put it. Then you must arrange the furniture for the set. Work with the person operating the recording equipment. (Don't forget the map and pointer for the weather person.)

10. Producer--You will be in charge of the Production Team. The Production Team is responsible for naming the television station, making a sign with the name, making place cards with the names of each reporter, and making up the production schedule. The production schedule will be a list of the order in which everything will happen during the telecast. You will write the production schedule on the chalk board for everyone to see.

11. Production Assistant--You will work with the other members of the Production Team carrying out the tasks described on the Producer's card. (3 copies)

12. Director--You will supervise the activities of the cast. You will direct rehearsal and the live telecast. Work with the Producer to make sure the program is put together well.

OCCUPATIONAL CLUSTERS

ACTIVITY SHEET

INSTRUCTIONS: USE THE RESOURCES ABOUT OCCUPATIONS TO FILL OUT THIS SHEET WITH INFORMATION ABOUT YOUR OCCUPATION. (The role you have in the production.)

NAME OF OCCUPATION: _____

DESCRIBE SEVERAL DUTIES:

1. _____
2. _____
3. _____
4. _____

DESCRIBE THE ENVIRONMENT WHERE THIS WORK IS PERFORMED:

_____

_____

_____

DESCRIBE THE HOURS AND DAYS OF WORK:

_____

_____

DESCRIBE THE EDUCATION AND/OR TRAINING NECESSARY FOR THIS OCCUPATION:

_____

_____

_____

WHAT IS THE BEGINNING SALARY FOR THIS OCCUPATION? $_____/_____

WHAT DO YOU THINK ABOUT THIS OCCUPATION AND WHY?

_____

_____

_____

OCCUPATIONAL CLUSTERS

ACTIVITY: Decoding Messages

OBJECTIVE: After completing this activity, the student should be able to describe one or more problems in encoding and decoding messages.

APPROXIMATE TIME: 30 - 90 minutes

MATERIALS: Paper, pen or pencil (for teacher)

DIRECTIONS: The teacher must prepare for the activity by writing a rather complicated message on a sheet of paper. The message should include a request for specific actions to be taken by the students, expecially the last person to receive the message. Consider the following example:

Example

(Tell this message to another student exactly the way it is written.)

Go to a student of the opposite sex or whoever has not heard the message. Whisper to the student: "No one knows where the polar bear goes when it snows." Hop on your right foot if you are left handed and on your left foot if you are right handed. Say the name of a president that no one else has said. The last student to get this message will write the teacher's name on the board. If you understand this message, you will repeat it exactly the way you heard it when you go to the next student.

Note that the activity is similar to the game of "gossip," but each student is required to both do what is asked and then give the message to the next person.

Since the message is complicated, it will likely be "jumbled" along the way. When the students have become so confused that they cannot continue, step in and give

the written message to the last person who received the whispered message. See if the activity can finish with the last student receiving the message and writing the teacher's name on the board.

After the exercise, point out to the students that the messages were jumbled due to problems in encoding (giving the message) and decoding (receiving the message). Discuss some of the problems. Stress the fact that accurate encoding and decoding are required for effective telephone, television, radio, and movie operations.

OCCUPATIONAL CLUSTERS

CONSTRUCTION

OCCUPATIONAL CLUSTERS

ACTIVITY: Introducing the Construction Cluster

OBJECTIVE: After completing this activity, the student should be able to name at least two families of occupations within the cluster and give at least two occupations within each family.

APPROXIMATE TIME: 100 - 180 minutes

MATERIALS: Handout: Construction Careers; teacher reference: Construction Cluster; various classroom resources (e.g., Dictionary of Occupational Titles, Occupational Outlook Handbook, Career World, magazines, encyclopedia, and books); paper; pencil or pen; series of overlays (from transparency masters in Appendix One)

DIRECTIONS: Introduce the activity by using the series of overlay transparencies (see Appendix One). The transparencies reinforce the concepts of cluster, family, and occupation. Distribute copies of the handout. Ask students to name two families, and five occupations within one of the families. Write the names on the transparency.

Discuss the characteristics and requirements for some of the more familiar occupations. Read a description of one of the familiar occupations. Read a description of one of the familiar occupations from a classroom resource. Next, give the names of some of the less familiar occupations within the cluster. Ask for student volunteers to study the occupations and report on them at the next meeting. Students should prepare reports of about five to ten minutes each. The reports should focus on the educational, physical, and training requirements for the various occupations.

After students present the reports, allow others to question them about the occupations. Questions that cannot be answered should be listed on the board. Ask other students to find answers for the questions and present them at the next class meeting.

OCCUPATIONAL CLUSTERS

CONSTRUCTION CAREERS

Definition: Those occupations involved in the planning, designing, building, and repairing of buildings.

Family of Occupations	Description of Family
Wood Construction	Occupations involved in building with wood and wood products
Metal Construction	Occupations involved in building with metal and metal products
Masonry Construction	Occupations involved in building with masonry and masonry products
Electrical Installation	Occupations involved in building with electrical materials and components
Finishing	Occupations involved in completing or finishing the construction
Equipment Operators	Occupations involved in using and maintaining of heavy construction equipment
Engineering and Support Services	Occupations involved in providing technical assistance in the building industry

Family of Occupations	Examples of Occupations	D.O.T.
Wood Construction	Carpenter Helper	869.664-014
	Form Builder	860.381-046
	Carpenter	860.681-010
	Band-Saw Operator	667.685-014
	Batterboard Setter	869.664-014
Metal Construction	Plumber	862.381-030
	Pipe Fitter II	862.381-018
	Rigger	869.683-014
	Arc Welder	816.364-010
	Sheet Metal Worker	804.281-010
Masonry Construction	Bricklayer	861.381-018
	Stonemason	861.381-038
	Terrazzo Worker	861.381-046
	Tuck Pointer	869.664-014
	Plasterer	842.361-018

OCCUPATIONAL CLUSTERS

CONSTRUCTION CAREERS (Continued)

Family of Occupations	Examples of Occupations	D.O.T.
Electrical Construction	Electrician	824.261-010
	Air Conditioning Installer	827.464-010
	Diesel Plant Operator	952.382-010
	Cable Puller	829.684-018
	Construction Checker	821.367-010
Finishing	Awning Hanger	869.484-010
	Glazier	865.381-010
	Carpet Layer	864.381-010
	Painter	840.381-010
	Paperhanger	841.381-010
Equipment Operators	Bulldozer Operator	850.683-010
	Lock Tender I	869.665-010
	Power-Shovel Operator	850.683-030
	Road Laborer	869.687-026
	Blaster	859.261-010
Engineering and Support Services	Civil Engineer	005.061-014
	Surveyor	018.167-038
	Safety Engineer	012.061-014
	Civil Drafter	005.281-010
	Building Construction Inspector	182.267-010

OCCUPATIONAL CLUSTERS

CONSTRUCTION CLUSTER

Definition of Cluster

Those occupations involved in the planning, designing, building, and repair of all structures.

Families of Occupations

Wood--Occupations using wood, wood products, and wood building systems as primary assembling and working materials.

Metal--Occupations using metal, metal products, and metal building systems as primary assembling and working materials.

Masonry--Occupations using masonry, clay products, and masonry building systems as primary assembling and working materials.

Electrical--Occupations using electrical materials, related electrical components, and electrical building systems as primary assembling and working materials.

Finishing--Occupations using finishing products, such as glass, insulation, paint, floor covering, and sheet rock, as primary assembling and working materials.

Heavy Equipment Operators--Persons engaged in the operation and maintenance of heavy construction equipment.

Engineering and Support Services--Occupations concerned with engineering and technical assistance in the building industry.

Examples of Occupations

Carpenter
Pipe Fitter
Plumber
Sheet Metal Worker
Welder
Bricklayer
Plasterer
Electrician
Air Conditioning Installer
Glazier
Paperhanger
Painter
Bulldozer Operator
Architect
Surveyor

OCCUPATIONAL CLUSTERS

ACTIVITY: Recognizing Who Constructs a House

OBJECTIVE: After completing this activity, the student should be able to describe at least two occupations involved in constructing a house.

APPROXIMATE TIME: 50 - 170 minutes

MATERIALS: Handout: Activity Sheet; Who Works When?; pencil; classroom resources such as books, magazines, and Dictionary of Occupational Titles

DIRECTIONS: Introduce the activity by stating that many construction workers are needed to build a house. Point out that they must complete their work in a certain order. For example, the carpentry crew cannot begin their jobs until the work on the foundation is completed. Stress the fact that construction work involves cooperation and careful planning.

Distribute copies of the handout. Read the instructions to the class and answer any questions. Ask students to complete the activity individually,using classroom resources. After most students have completed the Activity Sheet, have several read their answers to the class.

As an optional activity, have individuals or groups of students research one occupation each. Tell them to plan to present a brief report to the class in the order that the occupation would be involved in constructing a house. When one occupation has been presented, then the presenter may attach the part of the house for which that occupation in responsible to a bulletin board display. In this manner, a "house" is constructed and students can appreciate the order and scheduling required to complete construction.

OCCUPATIONAL CLUSTERS

ACTIVITY SHEET: WHO WORKS WHEN?

Instructions: Use classroom resources to find out what each of the following workers do in their occupations and what materials they use. Write this information in the blanks beside the words.

Bricklayer-- _____

_____

Carpenter-- _____

_____

Electrician-- _____

_____

Glazier-- _____

_____

Lather-- _____

_____

Painter-- _____

_____

Cement Worker-- _____

_____

Plumber-- _____

_____

Plasterer-- _____

_____

Roofer-- _____

_____

Re-write the names of the construction occupations listed above. Arrange the list in the order the workers will be needed to build a house.

1. _____ 6. _____

2. _____ 7. _____

3. _____ 8. _____

4. _____ 9. _____

5. _____ 10. _____

OCCUPATIONAL CLUSTERS

ACTIVITY: Learning About the Work of Architects

OBJECTIVE: After completing this activity, the student should be able to sketch a floor plan and explain the purpose of the plan.

APPROXIMATE TIME: 50 - 110 minutes

MATERIALS: Handout: Student Information Sheet, old set of blueprints for a house (available from local architects or drafters), rulers, drawing paper, pencils

DIRECTIONS: Briefly explain the nature of an architect's work. Show the blueprints to the class and then post them on the bulletin board. The students may need to study the blueprints in completing the assingment.

Distribute copies of the handout. Read the information with the students. Ask the students to follow the directions on the handout to complete their own "floor plans." Hand out drawing paper, rulers and pencils. Move around the room offering suggestions and assistance. The teacher may wish to display some of the final plans.

OCCUPATIONAL CLUSTERS

STUDENT INFORMATION SHEET

Architects have important jobs because they make the plans for houses. People tell the architect what kind of house they want; then the architect designs or draws it. Others who have construction jobs use the architect's plans so they will know what to build and where to build it.

Here is a floor plan for a house just like an architect would draw. Can you tell where the doors are? Can you tell where the windows are? Finish the drawing by writing on the plan the names of the rooms. Here are the rooms:

Bedroom (2)	Hall
Kitchen	Bath
Living	Garage
Dining	

Pretend you are an architect. A customer comes to you and wants you to design a house with three bedrooms. On the back of this paper practice drawing the plans for the customer's house. You will need to include three bedrooms, two baths, a kitchen, living area, dining room, and garage. Be sure to write in the names of the rooms. Don't forget the doors and windows! After you have decided on a plan, draw your final plans on the drawing paper, using the ruler to measure and make straight lines. Use your imagination to make the house interesting!

OCCUPATIONAL CLUSTERS

ACTIVITY: Relating Personal Values to Construction Careers

OBJECTIVE: After completing this activity, the student should be able to name a construction occupation that is personally suitable, based on individual values.

APPROXIMATE TIME: 50 - 100 minutes

MATERIALS: Handout: Values and Occupations; pencil or pen; classroom resources, including Occupational Outlook Handbook, Dictionary of Occupational Titles, magazines, books, and pamphlets

DIRECTIONS: Distribute copies of the handout. Read the paragraph above the DIRECTIONS on the handout. Clarify what is meant by "value" by giving the students examples. The following list of words may be considered values by some persons. Some of the words may need to be defined for students.

money	family	patriotism
religion	honesty	cleanliness
friends	education	individuality
security	hard work	science
status	beauty	responsibility
leisure	freedom	fun

Next, read the directions aloud. Answer any questions concerning the listing and ranking procedures. Ask the students to complete the sheet, using construction occupations which interest them. Tell them to use classroom resources to decide how well the occupations satisfy the values. As the students complete the handout, check on their progress. Answer questions and tell them how to break ties as needed. Break ties by having the student decide between the tied ranks or totals. When all students have completed the handout, then ask them to form into groups of four to discuss individual values and "best" occupations.

OCCUPATIONAL CLUSTERS

VALUES AND OCCUPATIONS

In this activity, a value can be anything that is important to you. In listing your six most important values, consider how often you think and talk about the value. Also, ask yourself how often you do things that are related to the value.

DIRECTIONS: List six values that are most important to you in the boxes under the heading "VALUES." Then, write the names of five occupations that interest you in the boxes on the top. For each occupation, decide how well it meets your needs or fulfills the listed values. Start with the first value. Rank first the occupation that is "best" for the value and write "1" in the box under that occupation and across from that value. Then, decide which occupation is second-best and give it a "2." Give the third-best occupation a "3," the fourth-best a "4," and the fifth a "5." Go to the second value and start the ranking over again. Fill in all the boxes by ranking all the occupations for all the values. Then, add the numbers under each occupation and write this number in the "TOTAL" boxes. The occupation with the lowest number is the one that may be best for you from the list of five occupations. Write the occupations in the order of their totals--best to worst--in the blanks provided.

OCCUPATIONAL CLUSTERS

VALUES AND CAREERS

OCCUPATIONS

VALUES					
1.					
2.					
3.					
4.					
5.					
6.					
TOTALS					

Best Occupation _____

_____

_____

_____

Worst Occupation _____

OCCUPATIONAL CLUSTERS

CONSUMER AND HOMEMAKING EDUCATION

OCCUPATIONAL CLUSTERS

ACTIVITY: Introducing the Consumer and Homemaking Cluster

OBJECTIVE: After completing this activity, the student should be able to name at least two families of occupations within the cluster, and give at least two occupations within each family.

APPROXIMATE TIME: 100 - 150 minutes

MATERIALS: Handout: Consumer and Homemaking Careers; teacher reference: Consumer and Homemaking Cluster; various classroom resources (e.g., Dictionary of Occupational Titles, Occupational Outlook Handbook or Quarterly, magazines, and books); paper; pencil or pen; series of overlays (from transparency masters in Appendix One)

DIRECTIONS: Introduce the activity by using the series of overlays (Appendix One) to reinforce the concepts of cluster, family, and occupation. Distribute copies of the handout. Ask students to name two families and five occupations within one of the two families. Write the names on the transparency.

Discuss the characteristics and requirements for some of the more familiar occupations. Read a description of the occupations from a classroom resource. Give the names of some of the less familiar occupations within the cluster. Ask for volunteers to research the occupations and report on them at the next class meeting. Students may wish to use the Occupation Research form (Appendix Two) to prepare for the five-to-ten-minute reports. The reports should focus on the educational and training requirements for the various occupations. After the reports have been completed, discuss the cluster in general.

OCCUPATIONAL CLUSTERS

CONSUMER AND HOMEMAKING CAREERS

Definition: Those occupations involved in the development of goods and services that improve the quality of home life.

Family of Occupations	Description of Family
Food	Occupations involved in providing food and food information for consumers
Housing and Household Equipment	Occupations involved in designing and developing home interiors and home equipment
Textiles and Clothing	Occupations involved in designing and developing fabrics and clothing
Family Economics and Home Management	Occupations involved in assisting persons with home and budget management
Family Relations and Child Development	Occupations involved in studying and improving family relations and child growth

Family of Occupations	Examples of Occupations	D.O.T.
Food	Food Service Supervisor	319.137-010
	Food Technologist	041.081-010
	Dietician	077.127-010
	Research Nutritionist	077.061-010
	Food Tester	029.361-014
Housing and Household Equipment	Color Expert	141.051-010
	Home Service Representative	096.161-010
	Home Service Director	096.161-010
	Interior Decorator	142.051-014
	Tester	011.361-010
Textiles and Clothing	Textile Technician	789.687-010
	Fashion Coordinator	185.157-010
	Drapery Hanger	869.484-014
	Sewing Machine Operator	787.682-066
	Textile Chemist	Term
Family Economics and Home Management	Director of Consumer Education	Term
	Home Economist	096.121-014

OCCUPATIONAL CLUSTERS

CONSUMER AND HOMEMAKING CAREERS (Continued)

Family of Occupations	Examples of Occupations	D.O.T.
Family Economics and Home Management	Budget Consultant	160.207-010
	Family Economics Journalist	Term
	Family Finance Specialist	Term
Family Relations and Child Development	Child Development Researcher	045.061-010
	Nursery School Teacher	359.677-018
	Family Relations Journalist	Term
	Child Development Teacher	045.061-010
	Extension Service Specialist	096.128-010

OCCUPATIONAL CLUSTERS

CONSUMER AND HOMEMAKING CLUSTER

Definition of Cluster

Those occupations involved in (1) the development, production and management of goods and services,and (2) the teaching and use of skills which improve family life.

Families of Occupations

Food--Occupations concerned with the development and improvement of food, research in nutritional needs, institutional food service management, and providing food products for consumers.

Housing and Household Equipment--Occupations concerned with designing and decorating the interiors of homes and the development, improvement, and promotion of the use of household equipment.

Textiles and Clothing--Occupations concerned with the development of textiles and with providing consumer goods and services in textiles, clothing, and fashion design.

Family Economics and Home Management--Occupations concerned with assisting families in the areas of family budgeting and management of the homemaker's work.

Family Relations and Child Development--Occupations concerned with family relationships, and the intellectual and emotional development of the child in the home environment.

Examples of Occupations

Homemaker
Dietician
Food Chemist
Textile Chemist
Fashion Coordinator
Interior Decorator
Food Products Tester
County Home Demonstration Agent
Child Guidance Worker
Restaurant Manager
Chefs and Cooks
Model
Consumer Service Specialist
Drapery Hanger
Upholsterer

OCCUPATIONAL CLUSTERS

ACTIVITY: Locating Consumer and Homemaking Occupations

OBJECTIVE: After completing this activity, the student should be able to locate in the classified ads one or more occupations from the consumer and homemaking career cluster.

APPROXIMATE TIME: 40 - 70 minutes

MATERIALS: Handout: Classified Ad, classified ad sections of local newspaper, scissors, staples and stapler, pen or pencil

DIRECTIONS: Distribute copies of the handout and classified ad sections of the newspaper. Read the instructions with the students. As the students complete the exercise, move around the room checking on progress. Ask them to save the handout for reference.

OCCUPATIONAL CLUSTERS

CLASSIFIED AD

There may be many occupations in the field of Consumer and Homemaking right here in our city. The classified ads section of the newspaper tells you about many of these occupations.

INSTRUCTIONS: Find a classified ad that tells about an occupation you might like. It must be one in Consumer and Homemaking Careers. Cut out the ad and staple it to this sheet of paper in the upper right corner. Then answer the questions below about the occupation.

1. What is the name of this occupation? _____

2. What is the name of the business where there is an opening for this occupation? _____

3. Does it give the street address? (Yes or No) _____

4. If there is a street address, what is it? _____

5. Is there a telephone number to call? (Yes or No) _____

6. If it gives a telephone number, what is it? _____

7. Does the ad say anything about the salary? (Yes or No) _____

8. If the ad does say something about the salary, what does it say?

_____

9. Does the ad say anything about employee benefits? (Yes or No) __

_____

10. If it does mention benefits, what does it say? _____

_____

11. Do you need any experience for this occupation? (Yes or No)

_____

Use the materials in the classroom to answer this question:

12. What are the duties and responsibilities of this occupation:

_____

_____

_____

OCCUPATIONAL CLUSTERS

ACTIVITY: Identifying the Duties and Responsibilities of the Homemaker Occupation

OBJECTIVE: After completing this activity, the student should be able to state at least one responsibility or duty of a homemaker.

APPROXIMATE TIME: 15 - 45 minutes

MATERIALS: Handout: A Conversation, pen or pencil, chalkboard and chalk

DIRECTIONS: Without any introduction, give the students copies of the handout and ask them to read the material silently. Ask the students for their reactions to the handout. Discuss the contribution of the homemaker to America's economy.

Discuss the duties and responsibilities of a homemaker. Point out to the class that a homemaker may be a male or a female. Briefly consider other occupations in the cluster that are related to the homemaker occupation. The teacher may wish to list occupational titles and some of the responsibilities for each on the chalk board. Some related occupations are: chauffeur, counselor, dietitian, laundry worker, recreational director, accountant, medic, interior decorator, janitor, and fashion coordinator.

OCCUPATIONAL CLUSTERS

A CONVERSATION

"Do you work?"

"Yes, I do."

"What is your occupation?"

"I'm self-employed."

"Oh, how interesting. Just what do you do?"

"I run a small business."

"Gosh, I bet it really keeps you busy."

"It sure does, but I enjoy it."

"What are some of your responsibilities?"

"Well, I'm responsible for management, accounting, and budgeting. I often act as purchasing agent for the business. I also work part-time as a dietitian. I even prepare the meals I've planned for my business associate."

"I bet you make a great salary for all that work!"

"The market value of my services is around $20,000 a year."

"Wow! I bet you had to have a lot of training for your occupation."

"Actually, this business has an on-the-job training program."

"I see. Have you had much experience?"

"Nearly five years."

"Oh, have you been with the same company that long?"

"Yes, that's how long I've been married."

"What's that got to do with it?"

"My occupation is homemaker."

OCCUPATIONAL CLUSTERS

ACTIVITY: Working in Consumer and Homemaking Occupations

OBJECTIVE: After completing this activity, the student should be able to state the typical work of at least three occupations in the consumer and homemaking cluster.

APPROXIMATE TIME: 90 - 110 minutes

MATERIALS: Chalkboard and chalk, items provided by students, paper, pencil or pen

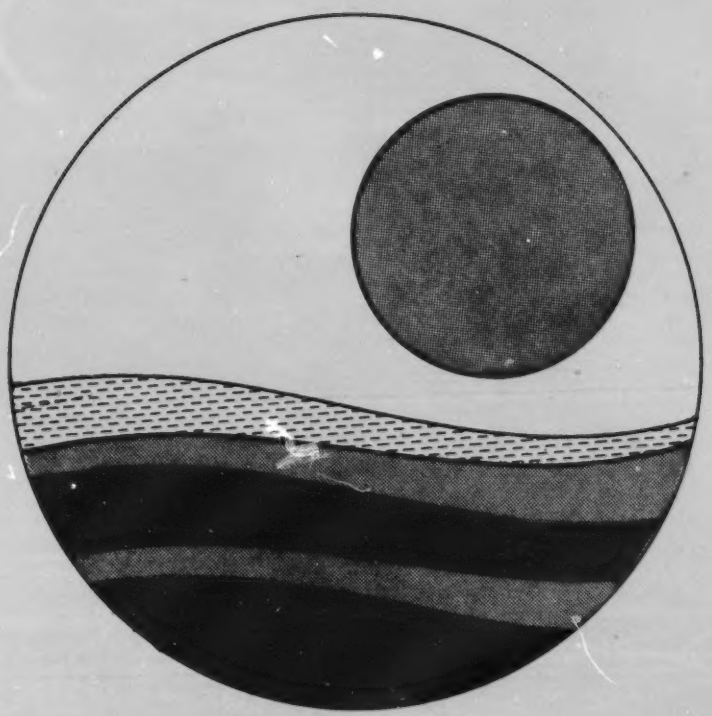
DIRECTIONS: Tell the students that each of them will be responsible for selecting an occupation from the cluster and completing some work typically associated with the occupation. The work will be completed outside the classroom. Ask students to bring the results of their work (e.g., a pie or a miniature costume) to the next class meeting. If students selected an occupation that provides a service rather than a project, ask them to bring a note from the person for whom they worked, describing the nature of the work. Ideally, the note might take the form of a "contract." For example, if a student contracted with a parent to hang some drapes for a dollar, then the student would begin to understand that homemaking work has cash value. Point out the above examples to the students.

List the titles of a number of consumer and homemaking occupations on the board. Include familiar and unfamiliar occupations. Make sure that students select occupations from each of the families. Encourage some students to select research and technical occupations. Ask the students to write their names and their chosen occupations on sheets of paper. Use the list to appropriately schedule reports or "show-and-tell" sessions for the next class meeting.

Students should present brief "show-and-tell" sessions. Questions about the various kinds of work should be encouraged. After the reports, a discussion that stresses the breadth of consumer and homemaking occupations should be conducted.

OCCUPATIONAL CLUSTERS

ENVIRONMENT



OCCUPATIONAL CLUSTERS

ACTIVITY: Introducing the Environment Cluster

OBJECTIVE: After completing this activity, the student should be able to name at least two families within the cluster and give at least two examples of occupations within each family.

APPROXIMATE TIME: 100 - 120 minutes

MATERIALS: Handout: Environment Careers; teacher reference: Environment Cluster; various classroom resources (Dictionary of Occupational Titles, Occupational Outlook Handbook, Career World, books, pamphlets, and magazines); series of overlays (Appendix One); overhead projector.

DIRECTIONS: Use the transparencies--from transparency masters in Appendix One--to introduce or reinforce the concepts of cluster, family, and occupation. Distribute copies of the handout. Ask students to name a family and then five occupations within the family. Write these on the transparency.

Give a brief description of one of the familiar occupations. Prepare for the description by referring to available classroom resources. As a part of the description, read briefly from one of the resources. Explain to the students why this was chosen as a resource to find occupational information.

Read some of the less familiar occupations from the teacher reference. Ask the students to guess the duties and responsibilities of them. Identify those occupations with which students are least acquainted. Ask for volunteers to study the occupations and prepare a brief report or presentation for the class. Encourage students to use all available resources in preparing the five to ten minute reports. The presentations should focus on the educational and training requirements for the occupations.

At the next class meeting, have students present and then discuss each familiar occupation and the growing importance of environment careers.

OCCUPATIONAL CLUSTERS

ENVIRONMENT CAREERS

Definition: Those occupations involved in the use and protection of natural resources and inhabitants of the land.

Family of Occupations	Description of Family
Pollution Prevention and Control	Occupations involved in controlling the spread of undesirable materials in the environment.
Disease Prevention	Occupations involved in controlling organisms that cause nutritional deficiency or disease.
Environmental Planning	Occupations involved in planning for future population growth and increased demands on natural resources.
Resource Control	Occupations involved in regulating the use and care of natural resources.

Family of Occupations	Examples of Occupations	D.O.T.
Pollution Prevention and Control	Air Analyst	012.261-010
	Radiation Monitor	199.167-010
	Sewage Plant Operator	955.362-010
	Sanitary Engineer	005.061-030
	Water Tender	599.685-122
Disease Prevention	Food and Drug Inspector	168.267-042
	Entomologist	041.061-046
	Fumigator	383.361-010
	Microbiologist	041.061-058
	Milk Sampler	410.357-010
Environmental Planning	Statistician	020.167-026
	Urban Planner	199.167-014
	Geographer	029.067-010
	Campground Caretaker	406.687-010
	Landscape Architect	001.061-018
Resource Control	Animal Ecologist	041.061-090
	Forester Aide	452.364-010
	Park Naturalist	049.127-010
	Soil Conservationist	040.061-054
	Botanist	041.061-038

OCCUPATIONAL CLUSTERS

ENVIRONMENT CLUSTER

Definition of Cluster

Those occupations involved in the wise use and protection of nature, natural resources, and inhabitants of the land.

Families of Occupations

Pollution Prevention and Control--Occupations concerned with control and prevention of the input of undesirable materials into the evironment.

Disease Prevention--Occupations concerned with the control of organisms that cause a nutritional deficiency or disease.

Environmental Planning--Occupations concerned with planning for future population growth and the most beneficial use of natural resources.

Resource Control--Occupations concerned with enforcing regulations regarding the use and care of natural resources.

Examples of Occupations

Water Purification Chemist
Industrial Waste Inspector
Radiation Monitor
Zoologist
Ecologist
Forester
Forester Aide
Gamekeeper
Park Ranger
Range Manager
Wildlife Biologist
Soil Conservationist
Exterminator (pest control)
Industrial Health Engineer
Land-Use Technician

OCCUPATIONAL CLUSTERS

ACTIVITY: Recycling Paper

OBJECTIVE: After completing this activity, the student should be able to describe a simple process for recycling paper.

APPROXIMATE TIME: 60 - 90 minutes

MATERIALS: Handout: Instructions for Recycling Paper, page of newspaper, egg beater, block of wood (4" x 5" x 2"), piece of screen wire (3" x 4"), cornstarch, water, pint container, plastic sandwich bag, tablespoon

DIRECTIONS: On the day before the activity, ask for three volunteers to participate in the demonstration. Distribute copies of the handout to all students. Have the volunteers tear the newspaper page into small (½" to 1") squares. Set the pieces aside for the next day. Ask volunteers to study the handout so that the demonstration goes smoothly.

Set up all the equipment before the students arrive on the day of the demonstration. Ask the volunteers to begin the demonstration by soaking the newspaper pieces. During the 30-minute wait, discuss the need for recycled paper and the importance of the recycling industry. Ask for examples of the use of recycled paper. Allow the volunteers to continue the demonstration.

After the fibers have dried for 24 hours, peel the paper from the screen. Evaluate the success of the demonstration with the students.

A plastic bucket or container may be used to protect the floor during the activity.

INSTRUCTICNS FOR RECYCLING PAPER

Fill mixing bowl 1/4 full of water. Place the newspaper pieces in the bowl and let soak for 30 minutes.

After the paper is thoroughly soaked, beat it with an egg beater. This will break the paper into fibers. When the mixture has been thoroughly beaten, it should be the consistency of heavy cream.

Dissolve two heaping tablespoons of cornstarch into a pint of water and pour into the mixing bowl of pulp and stir.

Hold the piece of screen wire flat and lower it into the bowl of pulp. Repeat this until the screen has accumulated a layer of pulp about 1/10" thick.

Set the pulp-covered screen on a piece of newspaper and place a plastic sandwich bag over it to make a layer of plastic on top of the pulp.

Using the wood block, gently press down on the pulp, then use more pressure. The water will filter through the screen onto the newspaper.

Allow fibers to dry for 24 hours. Peel the paper from the screen.

OCCUPATIONAL CLUSTERS

ACTIVITY: Conducting an Environmental Experiment

OBJECTIVE: After completing this activity, the student should be able to identify a nonbiodegradable material.

APPROXIMATE TIME: 50 minutes (one month for total experiment)

MATERIALS: Poster board; felt-tip pens; ruler; four pieces of each of the following materials: newspaper, cloth, waxed paper, styrofoam, plastic, metal, and rubber; tacks or self-adhesive picture mounts

DIRECTIONS: Divide the class into eight groups. Inform the groups that they will be responsible for conducting various parts of an experiment.

One of the eight groups will be responsible for making a poster that looks like the example below.

MATERIAL	WEEK			
	1	2	3	4
Newspaper				
Cloth				
Waxed Paper				
Styrofoam				
Plastic				
Metal				
Rubber				

Each of the remaining seven groups will be responsible for conducting the experiment with one of the seven materials. During the first class meeting, students in each group will bury four pieces of the material assinged to them. Each week after this meeting, one of the four pieces will be recovered and given to the poster committee to attach to the display. The experiment will continue for four consecutive weeks.

During the first class meeting, the teacher should ask each student for her or his "hypothesis" or guess about which material will decompose first. A member of the poster group will make marks next to the materials on the display to indicate the guesses of students. At the end of four weeks, the display will be completed. The class can determine the accuracy of their hypotheses. Discuss the concept of biodegradability. Ask students to imagine what their city could be like if waste materials were not properly handled by persons in the environment career cluster.

OCCUPATIONAL CLUSTERS

ACTIVITY: Naming Environmental Occupations

OBJECTIVE: After completing this activity, the student should be able to list the names of at least three occupations from the environmental cluster.

APPROXIMATE TIME: 50 - 110 minutes

MATERIALS: Handout: Add A Letter; teacher reference: Add A Letter Key; pencil or pen; classroom resources

DIRECTIONS: Distribute copies of the handout. Read the directions aloud with the students. Ask them to complete the names of environmental occupations and then use classroom resources to find out more about the occupations. Check on the progress of students since some help may be needed. For example, give some of the letters for the blanks if some students are "stuck."

OCCUPATIONAL CLUSTERS

ADD-A-LETTER

Instructions: The names of environmental occupations are listed below. All of the consonants have been left out of the words. See if you can fill in the blanks with the correct letters. Possible answers are included at the bottom of the page.

1. ___A___I___A___ ___ E___ ___I___E E___
2. E___ ___O___O___O___I___ ___
3. ___ I___ ___O___ ___E___ ___A___I O___I___ ___
4. U___ ___A___ ___ ___A___ ___E___
5. A I___ A___A___ ___ ___ ___
6. ___O___A___I___ ___
7. ___E O___ ___A___ ___E___
8. ___U___I___A___O___

Entomologist
Forester Aide
Park Naturalist
Geographer
Microbiologist
Statistician
Fumigator
Botanist
Animal Ecologist
Air Analyst
Urban Planner
Soil Conservationist

OCCUPATIONAL CLUSTERS

ADD-A-LETTER KEY

1. Sanitary Engineer
2. Entomologist
3. Soil Conservationist
4. Urban Planner
5. Air Analyst
6. Botanist
7. Geographer
8. Fumigator

OCCUPATIONAL CLUSTERS

FINE ARTS AND HUMANITIES

OCCUPATIONAL CLUSTERS

ACTIVITY: Introducing the Fine Arts and Humanities Cluster

OBJECTIVE: After completing this activity, the student should be able to name at least two families of occupations within the cluster, and give at least two examples of occupations within each family.

APPROXIMATE TIME: 100-150 minutes

MATERIALS: Handout: Fine Arts and Humanities Careers; teacher reference: Fine Arts and Humanities Cluster; various classroom resources (e.g., Dictionary of Occupational Titles, Occupational Outlook Handbook, magazines, and books); paper; pencil or pen; series of overlays (from transparency masters in Appendix One)

DIRECTIONS: Introduce the activity by using the series of overlays (Appendix One) to reinforce the concepts of cluster, family, and occupation. Ask students to name two families and five occupations within one of the families. Write these names on the transparency. Since this activity introduces the fine arts and humanities cluster, creative students may be called upon to "brighten-up" the series of overlay transparencies before beginning the presentation.

Discuss the characteristics and requirements for some of the more familiar occupations. Give the names of some of the less familiar occupations within the cluster. Ask for volunteers to research the occupations and prepare brief reports for the next class meeting. The students may wish to use the Occupational Research form (Appendix Two) to prepare for the reports.

After the reports have been completed, discuss the occupations generally. Ask students who were not volunteers to find stories, magazine articles, pictures, clippings, and related items for the various occupations within the cluster. Encourage students to secure background information such as biographies on famous individuals from the cluster. Have a "show-and-tell" session at the next class meeting.

OCCUPATIONAL CLUSTERS

FINE ARTS AND HUMANITIES CAREERS

Definition: Those occupations involved in developing and presenting the beauty and values of a culture

Family of Occupations	Description of Family
Visual Arts	Occupations involved in producing art images
Writing	Occupations involved in artistic communication in written forms
Performing Arts	Occupations involved in producing music, theater, and dance
Religion and Theology	Occupations involved in providing religious services
Languages and Linguistics	Occupations involv in studying written and oral languages
History and Museums	Occupations involved in preserving and studying the records and materials of the past

Family of Occupations	Examples of Occupations	D.O.T.
Visual Arts	Layout Artist	141.061-018
	Medical Illustrator	141.061-026
	Cartoonist	141.061-010
	Painter	141.061-010
	Apprentice Photographer	143.062-018
Writing	Fiction Writer	131.067-046
	Playwright	131.067-038
	Poet	131.067-042
	Technical Writer	131.267-026
	Lexicographer	132.067-018
Performing Arts	Choreographer	151.027-010
	Stage Manager	962.167-014
	Drama Critic	131.067-018
	Actor	150.047-010
	Choral Director	152.047-010

OCCUPATIONAL CLUSTERS

FINE ARTS AND HUMANITIES CAREERS (Continued)

Family of Occupations	Examples of Occupations	D.O.T.
Religion and Theology	Clergy Member	120.007-010
	Rabbi	120.007-010
	Missionary	120.007-010
	Director of Religious Education	129.107-022
	Christian Science Practitioner	129.107-014
Languages and Linguistics	Linguist	059.067-014
	Translator	137.267-018
	Philologist	059.067-010
	Etymologist	137.267-010
	Interpreter	137.267-010
History amd Museums	Historian	052.067-022
	Genealogist	052.067-018
	Military History Archivist	010.167-018
	Curator	102.017-010
	Armorer Technician	109.281-010

OCCUPATIONAL CLUSTERS

FINE ARTS AND HUMANITIES CLUSTER

Definition of Cluster

Those occupations involved in developing, promoting, and preserving the social, moral, and aesthetic values of a culture.

Families of Occupations

Visual Arts--Occupations concerned with the art images used in commercial art and fine arts.

Writing--Occupations concerned with communication through written forms.

Performing Arts--Occupations concerned with music, theater, and dance.

Religion and Theology--Occupations concerning ordained clergy and others in religiously oriented fields.

Languages and Linguistics--Occupations concerned with the scientific study of language and the use of multi-lingual skills.

History and Museums--Occupations concerned with preserving records and materials of the past and the use of such records and materials to describe and analyze past and present events, ideas, institutions, and people.

Examples of Occupations

Commercial Artist
Photographer
Actor
Dancer
Composer
Literary Writer
Playwright
Interpreter/Translator
Historian
Archivist
Jewelry Designer
Potter
Conductor
Humorist
Rabbi/Protestant Clergy/Roman Catholic Priest

OCCUPATIONAL CLUSTERS

ACTIVITY: Reviewing a Television Show

OBJECTIVE: After completing this activity, the student should be able to list at least two of the areas a critic considers in reviewing a show.

APPROXIMATE TIME: 30 - 120 minutes

MATERIALS: Handout: Review a Television Show; pencil or pen; television (at students' homes or friends' homes)

DIRECTIONS: Briefly discuss the role of the critic in the performing arts. Relate this discussion to the role of the critic in the visual arts and in communications and media.

Distribute copies of the handout. Read the instructions aloud and answer questions that arise. Ask students to watch a television show at home or at a friend's home and then complete the review.

At the next class meeting, ask students to form small groups to discuss their reviews. Check with the groups to see if certain shows were reviewed by more than one person. Have a panel of "critics" discuss a show that was reviewed by several students.

OCCUPATIONAL CLUSTERS

REVIEW A TELEVISION SHOW

Instructions: Take this sheet of paper home with you. Watch a television show. It can be a comedy, mystery, police show, or a movie. It cannot be a variety show. In the space below, write what you think about each of the things listed. You will be a critic. Critics are people who tell what they think about another person's work.

Name of Show: _____

Tell about the main characters (actors) in the show:

1. _____
2. _____
3. _____

(If you need more space write on the back.)

Tell what you think about the following areas of the show:

Acting: _____

_____

Script (All the talking): _____

_____

Set (The things the actors and actresses used or where the action took place): _____

_____

Music: _____

_____

_____

Photography: _____

_____

Tell what you think about the show in general. Did you consider it good or bad, and why; would you tell your friends to watch the show?

_____

_____

_____

_____

OCCUPATIONAL CLUSTERS

ACTIVITY: Describing Fine Arts and Humanities Occupations

OBJECTIVE: After completing this activity, the student should be able to match at least five occupations with their descriptions.

APPROXIMATE TIME: 15 - 45 minutes

MATERIALS: Handout: Matching Game, teacher reference: Matching Game Answer Key, pen or pencil, classroom resources (Dictionary of Occupational Titles, Occupational Outlook Handbook, magazines, and books)

DIRECTIONS: Distribute copies of the handout, face down. Explain that the activity is a game. The first person to answer all items correctly is the "winner." Remind the students to use the various classroom resources.

Tell students to turn papers over and begin. Give the "winner" a reward (e.g., extra credit, piece of candy, or a trivial prize), if appropriate.

OCCUPATIONAL CLUSTERS

MATCHING GAME

Instructions: Place the letter of the term in the blank beside the word or words that it matches. Use each letter only one time.

___	1. Commercial Artist	A. Organizes, writes, and edits material about science so it can be easily understood.
___	2. Layout Person	B. Reads a comic script and draws what the writer suggests.
___	3. Renderer	C. Means "to dance on tips of toes"
___	4. Letterer	D. Memorizes lines and portrays a role.
___	5. Comic Strip Artist	E. Studies ancient civilizations.
___	6. Inker	F. Plays an instrument, either alone or with a group.
___	7. Colorist	G. Draws advertisements.
___	8. Comic Strip Editor	H. Prepares the copy which describes the ad.
___	9. Technical Writer	I. Colors art work in a comic strip.
___	10. Composer	J. Does a rough sketch of an ad.
___	11. En Pointe	K. Writes melodies.
___	12. Archeologist	L. Religious leader in Catholic Church.
___	13. Anthropologist	M. Studies the origins and history of humans.
___	14. Curator	N. Does detail work on a sketch.
___	15. Priest	O. Finishes an illustration in ink.
___	16. Rabbi	P. Person in charge of producing a comic strip.
___	17. Interpreter	Q. Religious leader of Jewish faith.
___	18. Actor/Actress	R. In charge of a museum.
___	19. Musician	S. Translates one language into another.
___	20. Author	T. Writes books.

OCCUPATIONAL CLUSTERS

MATCHING GAME ANSWER KEY

G 1. Commercial Artist
J 2. Layout Person
N 3. Renderer
H 4. Letterer
B 5. Comic Strip Artist
O 6. Inker
I 7. Colorist
P 8. Comic Strip Editor
A 9. Technical Writer
K 10. Composer
C 11. En Pointe
E 12. Archeologist
M 13. Anthropologist
R 14. Curator
L 15. Priest
Q 16. Rabbi
S 17. Interpreter
D 18. Actor/Actress
F 19. Musician
T 20. Author

OCCUPATIONAL CLUSTERS

ACTIVITY: Engaging in Fine Arts and Humanities Activities

OBJECTIVE: After completing this activity, the student should be able to describe one or more of the feelings experienced after engaging in fine arts and humanities activities.

APPROXIMATE TIME: 300 - 350 minutes

MATERIALS: Various classroom resources including: career investigation materials, collections of poetry and one-act plays, historical books and biographies, sheet music, magazines which focus on the fine arts, foreign language readers and workbooks, and related materials; clay, paper, paints, colored pens, and other art supplies; cameras and photographic supplies as available

DIRECTIONS: This activity emphasizes the creativity of the students. It promotes "discovery learning" about the rewards of fine arts and humanities occupations. The activity facilitates learning by "doing" and experiencing, rather than by "talking about."

At the first class meeting, describe the assignment to the students. Tell them that each student will be responsible for engaging in a fine arts and humanities cluster activity. They may choose any creative activity. Give the following examples to the students:

- Producing a sculpture or painting
- Writing a short story
- Reading a poem
- Recreating a famous battle with military figures
- Tracing a "family tree"
- Drawing a cartoon
- Translating a story into a foreign language
- Acting a scene
- Creating a dance

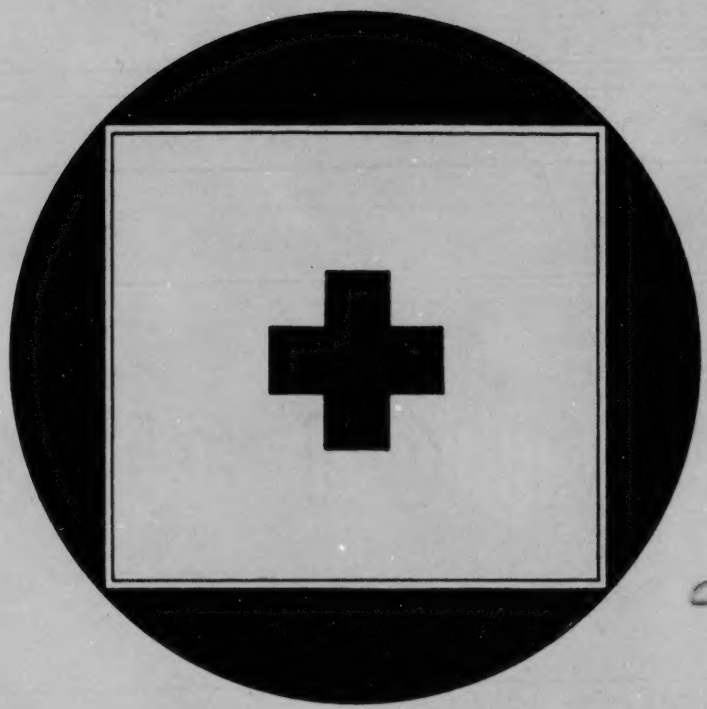
- Writing a biography of a well-known person in the school or city
- Designing a poster
- Photographing a child

Tell them to research the occupations and activities during the remainder of the class meeting. Ask for volunteers to begin presenting their creations at the next class meeting. Several periods may be required for all students to present or demonstrate their work.

After the presentations are completed, discuss the feelings that one has when sharing an original creation with others. Ask if students believe that their activities showed the class something about themselves. Consider the rewards that are present in the various occupations within the cluster.

OCCUPATIONAL CLUSTERS

HEALTH



OCCUPATIONAL CLUSTERS

ACTIVITY: Introducing the Health Cluster

OBJECTIVE: After completing this activity, the student should be able to name at least two families of occupations within the cluster, and give at least two occupations within each family.

APPROXIMATE TIME: 100-120 minutes

MATERIALS: Handout: Health Careers; teacher reference: Health Cluster; various classroom resources (e.g., Dictionary of Occupational Titles, Occupational Outlook Quarterly, magazines, pamphlets, and books); paper; pencil or pen; series of overlays (from transparency masters in Appendix One)

DIRECTIONS: Introduce the activity by using the series of overlays (Appendix One) to reinforce the concepts of cluster, family, and occupation. Distribute copies of the handout. Ask students to name two families,and five occupations within one of the families. Write the names on the transparency.

Read descriptions of some of the more familiar occupations from classroom resources selected prior to the class meeting. Ask for volunteers to study and report on some of the unfamiliar or very interesting occupations with the cluster. The reports should last five to ten minutes and should focus on the educational and training requirements for the occupations. After the reports have been completed, generally discuss the cluster and compare it to others studied thus far.

OCCUPATIONAL CLUSTERS

HEALTH CAREERS

Definition: Those occupations involved in providing services and facilities to meet the physical and mental health needs of all people.

Family Of Occupations	Description Of Family
Mental Health and Mental Health Services	Occupations involved in assisting persons with psychological problems
Medical and Biological Science Services	Occupations involved in finding and analyzing basic medical data
Dentistry and Dental Science Services	Occupations involved in caring for teeth and gums
General Hospital and Medical Office Related Occupations	Occupations involved in supporting the basic medical services through record-keeping and supply
Medical Emergency Services	Occupations involved in responding to immediate medical needs
Administration of Health Services	Occupations involved in managing and directing all aspects of health services
Personal and Community Health Services	Occupations involved in meeting the health care needs of persons in homes, schools, and industries
Pharmaceutical Science and Services	Occupations involved in providing drugs and health supplies
Professional Medical Supportive Personnel	Occupations involved in providing patient care and treatment under the direction of medical professionals
Medical Professions	Occupations involved in giving highly skilled medical care

Family of Occupations	Examples of Occupations	D.O.T.
Mental Health and Mental Health Services	Psychiatrist	070.107-014
	Psychiatric Aide	355.377-014
	Psychiatric Social Worker	195.107-034
	Clinical Psychologist	045.107-022
	Psychometrist	045.067-018

OCCUPATIONAL CLUSTERS

HEALTH CAREERS (Continued)

Family of Occupations	Examples of Occupations	D.O.T.
Medical and Biological Science Services	Blood Bank Technologist	078.361-014
	Electrocardiograph Technician	078.362-018
	Medical Assistant	079.367-010
	Radiologic Technologist	078.362-026
	Nuclear Medical Technologist	078.361-018
Dentistry and Dental Science Services	Dentist	072.101-010
	Dental Hygienist	078.361-010
	Dental Assistant	079.371-010
	Dental Laboratory Technician	712.381-018
	Dental Ceramist	712.281-010
General Hospital and Medical Office Related Occupations	Nurse Aide	355.674-014
	Receptionist	237.637-038
	Central Supply Worker	381.687-010
	Diet Clerk	245.587-010
	X-Ray Developing Machine Operator	976.685-014
Medical Emergency Services	Ambulance Driver	913.683-010
	Ambulance Attendant	355.374-010
	First-Aid Attendant	354.677-010
	Emergency Medical Technician	079.374-010
	Emergency Medical Services Coordinator	079.117-010
Administration of Health Services	Executive Houskeeper	187.167-046
	Hospital Administrator	187.117-010
	Medical Officer	070.101-046
	Director of Volunteer Services	186.167-038
	Admitting Officer	205.137-010
Personal and Community Health Services	Health Education Officer	070.101-046
	Public Health Nurse	075.124-014
	School Nurse	075.124-010
	Home Health Aide	354.377-014
	Sanitarian	529.137-014
Pharmaceutical Science and Services	Pharmacist	074.161-010
	Pharmacy Helper	074.387-010
	Pharmacist Assistant	047.381-010
	Pharmaceutical Compounding Supervisor	559.131-010
	Pharmaceutical Operator	559.382-042

OCCUPATIONAL CLUSTERS

HEALTH CAREERS (Continued)

Family of Occupations	Examples of Occupations	D.O.T.
Professional Medical Supportive Personnel	Prosthetist	078.261-022
	Chiropractor Assistant	079.364-010
	Optometrist	079.101-018
	Speech Pathologist	076.107-010
	Occupational Therapist	076.121-010
Medical Professions	Family Physician	070.101-030
	Surgeon II	070.101-022
	Dermatologist	070.101.018
	Licensed Practical Nurse	079.374-014
	Head Nurse	075.127-018

OCCUPATIONAL CLUSTERS

HEALTH CLUSTER

Definition of Cluster

Those occupations involved in providing services and facilities to meet the physical, psychological, and mental health needs of all people.

Families of Occupations

Mental Health and Mental Health Services--Occupations concerned with assisting patients or clients in solving those problems which may exert a disruptive influence on their lives.

Medical and Biological Science Services--Occupations which support the medical profession by performing tests for the purposes of locating facts and information to be analyzed and interpreted.

Dentistry and Dental Science Services--Occupations concerned with the care and treatment of teeth and gums.

General Hospital and Medical Office Related--Occupations which aid the health services regarding such areas as record keeping and supplies.

Medical Emergency Services--Occupations responsible for responding to and taking appropriate action with regard to medical emergencies.

Administration of Health Services--Occupations which are concerned with managing and directing all aspects of health services in hospitals, health departments and voluntary agencies.

Personal and Community Health Services--Occupations concerned with the health needs of persons in homes, schools, clinics, and industries.

Pharmaceutical Science and Services--Those occupations concerned with dispensing drugs and health supplies.

Professional Medical Supportive Personnel--Persons engaged in occupations which are involved in patient care and treatment generally under the direction of medical professionals (such as therapists).

Medical Professions--Occupations which require strict academic preparation within the medical field and licensure by medical boards.

Examples of Occupations

Psychologist
Medical Technologist
Medical Laboratory Technician
Dentist
Dental Hygienist
Ambulance Attendant
Hospital Administrator
Medical Records Librarian
Public Health Nurse
Pharmacist
Optometrist
Nurse's Aide
Pediatrician
Surgeon
Licensed Practical Nurse

OCCUPATIONAL CLUSTERS

ACTIVITY: Exploring Health Care

OBJECTIVE: After completing this activity, the student should be able to name at least one task in determining health signs.

APPROXIMATE TIME: 100 - 120 minutes

MATERIALS: Handouts: Student Instructions for Exploring Health Care, Medical History Record, Health Information Form; clock or watch with second hand; bathroom scale; yardstick; oral thermometers, cotton balls and disinfectant (alcohol)--available from local pharmacy; pencil or pen

DIRECTIONS: Before the activity begins, set up work stations in the following manner:

Station 1--Measuring Temperature
Station 2--Measuring Height and Weight
Station 3--Measuring the Pulse Rate

Ask the students to form pairs for completing the activity.

Explain thoroughly the use of the equipment at each station--especially the use of the disinfectant. Distribute copies of the handouts. Ask students to complete the Medical History Record before beginning work at the stations. Tell students to read the Instructions. Clarify procedures and answer questions. It may be necessary to demonstrate use of the equipment.

Each pair of students should complete the tasks required at the three stations. Assist students in completing them in an orderly fashion. Each person in the pair will complete a "physical examination" of the other. As they work at each station, the students should complete the Information Form. After all pairs have completed the tasks, discuss the activity in relation to work of physicians and nurses.

OCCUPATIONAL CLUSTERS

STUDENT INSTRUCTIONS FOR EXPLORING
HEALTH CARE

Measuring the Body Temperature

1. Prepare the thermometer. Hold it by the upper end (the part that does not go into the mouth of the patient). Dip a cotton ball in alcohol. Squeeze part of the alcohol out of the cotton ball and use it to wipe the thermometer clean. Rinse with water before using.

2. Hold the thermometer and shake the mercury down. This is done by raising your arm and then quickly snapping the wrist down several times. Look at the thermometer to make sure that it reads below 95°F.

3. Place the thermometer under the patient's tongue and leave it there for at least three minutes. Do not let the patient talk.

4. Remove the thermometer from the patient's mouth.

5. To read the temperature, hold the thermometer up so you can easily see it. Hold the thermometer so that the red triangle is pointed towards you. Turn the thermometer in your hands until you can see the end of the line of mercury. The end of the line of mercury is across from the temperature of the patient.

6. Record the patient's temperature. Whenever you write a temperature, you should write the number, a degree mark, and then a capital "F", which stands for Fahrenheit, the name of the scale used to measure temperature on this type of thermometer. Most people have a normal body temperature of 98.6°F.

7. After you have finished with the thermometer, disinfect it by washing it in alcohol.

Measuring Height and Weight

1. Ask the patients to remove their shoes and stand with back against the wall. Carefully measure the height using the yardstick. Record the measured height.

2. Ask the patients to remove their shoes and stand on the scale. Record the weight that the scale shows.

Measuring Pulse Rate

1. Locate the radial pulse of your patient by placing your second and third fingers on the inside of the wrist just below the thumb.

2. When you finally feel the pulse, count the number of beats for one minute, and record the patient's pulse rate.

3. Now that you know the resting pulse rate, have the patient run in place for one minute. Then take a pulse rate immediately. There should be an increase in the heart rate. This means that the heart is responding to the demands placed on it by the body. Record this new pulse rate on the patient's examination record.

OCCUPATIONAL CLUSTERS

MEDICAL HISTORY RECORD

Patient's Name _____

Age _____ Male _____ Female _____

	Check One	
	Yes	No
Are you in good health?		
Are you currently taking any medications prescribed by a doctor?		
Do you have regular medical check-ups?		
Have you had shortness of breath at a time when you were not being active?		
Have you had chest pains that were not brought on by physical activity or injury?		
Have you had any history of:		
Heart Disease?		
Diabetes?		
Allergies?		
Bleeding?		

Is there a history of any of the above problems in any family members? _____

_____

What is your past medical history? (operations, accidents, other treatments) _____

_____

_____

OCCUPATIONAL CLUSTERS

HEALTH INFORMATION FORM

Patient's Name: _____

Age: _____ Sex: _____

General Observations

Appearance: Relaxed _____ Nervous _____
Skin Color: Good _____ Pale _____
Posture: Good _____ Poor _____

Height _____ Weight _____

Oral Body Temperature _____

Pulse Rate Resting: _____ per minute.
After Exercise: _____ per minute.

Doctor's Comments: _____

_____

_____

Signature: _____

Date: _____

OCCUPATIONAL CLUSTERS

ACTIVITY: Learning About the Requirements for Health Occupations

OBJECTIVE: After completing this activity, the student should be able to state the training and educational requirements for at least two health occupations.

APPROXIMATE TIME: 50 - 100 minutes

MATERIALS: Classroom resources: Dictionary of Occupational Titles, Occupational Outlook Handbook, Career World, Health Careers in Texas, magazines, pamphlets, books, and guides; paper; pencil or pen

DIRECTIONS: Since most of the health occupations require extensive professional or technical training, the students should become acquainted with requirements for various occupations. A variety of classroom resources may be arranged at work stations so that students may individually complete the activity.

Ask students to select at least five health occupations that are personally interesting. Tell them to use classroom resources to find and list the educational and training requirements for the occupations. Allow students one or two class meetings to complete the assignment. When the students have completed the lists, collect them and read a variety of the occupational requirements to the class.

OCCUPATIONAL CLUSTERS

ACTIVITY: Recognizing Health Occupations

OBJECTIVE: After completing this activity, the student should be able to identify five or more names of health occupations.

APPROXIMATE TIME: 30 - 50 minutes

MATERIALS: Handout: Health Occupations; teacher reference: Health Occupations Teacher Key; pencil

DIRECTIONS: This activity may be completed as an individual or group exercise. If the group approach is used, then the first student to finish may be declared "winner."

Distribute copies of the handout. Read the instructions with the students. Explain how the names are found. Answer any questions. The teacher may need to circle one or two names as examples to get the students started.

OCCUPATIONAL CLUSTERS

HEALTH OCCUPATIONS

Instructions: Find the names of the occupations listed below. The names may be found in the rows, the columns or the diagonals. The names may be spelled backward or forward.

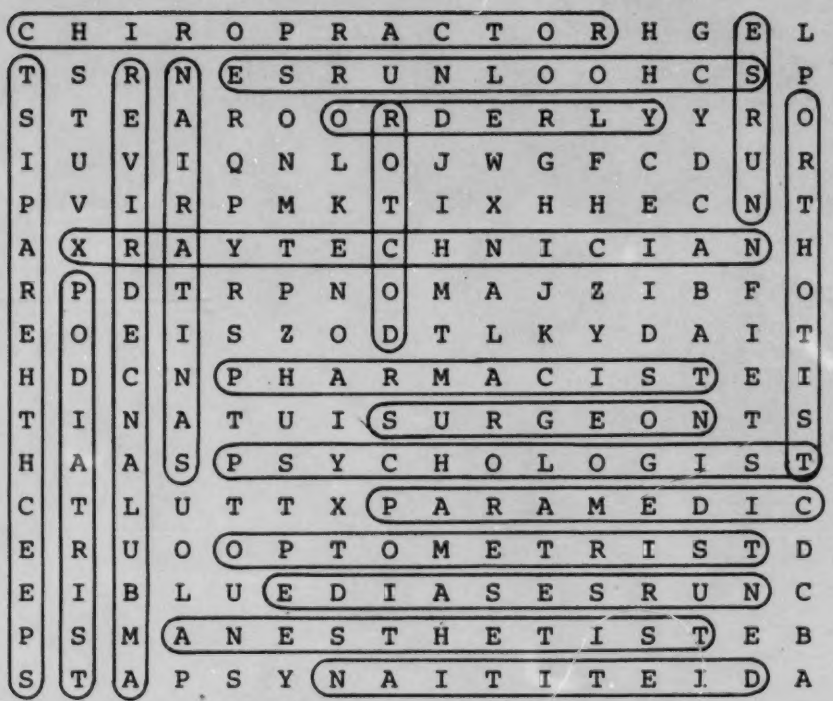
C H I R O P R A C T O R H G E L
T S R N E S R U N L O O H C S P
S T E A R O O R D E R L Y Y R O
I U V I Q N L O J W G F C D U R
P V I R P M K T I X H H E C N T
A X R A Y T E C H N I C I A N H
R P D T R P N O M A J Z I B F O
E O E I S Z O D T L K Y D A I T
H D C N P H A R M A C I S T E I
T I N A T U I S U R G E O N T S
H A A S P S Y C H O L O G I S T
C T L U T T X P A R A M E D I C
E R U O O P T O M E T R I S T D
E I B L U E D I A S E S R U N C
P S M A N E S T H E T I S T E B
S T A P S Y N A I T I T E I D A

Ambulance Driver
Anesthetist
Chiropractor
Dentist
Dietitian
Doctor
Nurse
Nurse's Aide
Optometrist
Orderly
Orthotist
Paramedic
Pharmacist
Podiatrist
Psychiatrist
Psychologist
School Nurse
Sanitarian
Speech Therapist
Surgeon
X-Ray Technician

OCCUPATIONAL CLUSTERS

HEALTH OCCUPATIONS

TEACHER KEY


C H I R O P R A C T O R H G E L
T S R N E S R U N L O O H C S P
S T E A R O O R D E R L Y Y R O
I U V I Q N L O J W G F C D U R
P V I R P M K T I X H H E C N T
A X R A Y T E C H N I C I A N H
R P D T R P N O M A J Z I B F O
E O E I S Z O D T L K Y D A I T
H D C N P H A R M A C I S T E I
T I N A T U I S U R G E O N T S
H A A S P S Y C H O L O G I S T
C T L U T T X P A R A M E D I C
E R U O O P T O M E T R I S T D
E I B L U E D I A S E S R U N C
P S M A N E S T H E T I S T E B
S T A P S Y N A I T I T E I D A

Ambulance Drive
Anesthetist
Chiroractor
Dentist
Dietitian
Doctor
Nurse
Nurse's Aide
Optometrist
Orderly
Orthotist
Paramedic
Pharmacist
Podiatrist
Psychiatrist
Psychologist
School Nurse
Sanitarian
Speech Therapist
Surgeon
X-Ray Technician

OCCUPATIONAL CLUSTERS

HOSPITALITY AND RECREATION

OCCUPATIONAL CLUSTERS

ACTIVITY: Introducing the Hospitality and Recreation Cluster

OBJECTIVE: After completing this activity, the student should be able to name at least two families of occupations within the cluster and give at least two examples of occupations within each family.

APPROXIMATE TIME: 100 - 150 minutes

MATERIALS: Handout: Hospitality and Recreation Careers; teacher reference: Hospitality and Recreation Cluster; various classroom resources (e.g., Dictionary of Occupational Titles, Occupational Outlook Quarterly, pamphlets, magazines, and books); paper; pencil or pen; series of overlay (from transparency masters in Appendix One).

DIRECTIONS: Reinforce the concepts of cluster, family, and occupation using the series of overlay (Appendix One). Distribute copies of the handout. Ask students to call out two families and five occupations within one of the families. Write the names on the transparency.

Prior to the activity, prepare short descriptions of two of the more familiar occupations listed on the teacher reference sheet. Focus on the educational and training requirements for the occupations. Read the descriptions and then give the students the names of some of the less familiar occupations within the cluster. Ask for volunteers to research the occupations and report on them at the next class meeting. The students should present reports similar to those given by the teacher. They may wish to use the Occupation Research form (Appendix two) to prepare for the five to ten minute reports. After the reports have been completed, discuss the cluster in general. Consider the personal benefits of occupations that help to make others happy.

OCCUPATIONAL CLUSTERS

HOSPITALITY AND RECREATION CAREERS

Definition: Those occupations involved in entertainment and tourism and otherwise meeting the leisure-time needs of people.

Family of Occupations	Description of Family
Travel Bureaus/Travel Agencies	Occupations involved in providing travel information and accommodations
Transportation	Occupations involved in providing services for traveler comfort
Public, Industrial and Private Recreation	Occupations involved in performing or arranging recreation and entertainment activities
Natural Resources Recreation	Occupations involved in organizing and preserving natural sources of recreation

Family of Occupations	Examples of Occupations	D.O.T.
Travel Bureaus/Travel Agencies	Public Relations Representative	165.067-010
	Travel Agent	252.157-010
	Travel Clerk	238.367-030
	Ticket Agent	248.382-010
	Travel-Ticketing Reviewer	238.167-014
Transportation	Touring Counselor	238.167-010
	Tourist Information Assistant	237.367-050
	Flight Attendant	310.137-018
	Club Car Steward	310.137-026
	Deck Steward	350.677-022
Public, Industrial and Private Recreation	Professional Athlete	153.341-010
	Mime	159.047-022
	Usher	344.677-014
	Ski-Lift Operator	341.665-010
	Camp Counselor	159.124-010
Natural Resources Recreation	Lifeguard	379.667-014
	Zoo Caretaker	412.674-010
	Campground Caretaker	406.687-010

OCCUPATIONAL CLUSTERS

HOSPITALITY AND RECREATION CLUSTER

Definition of Cluster

Those occupations involved in entertainment, tourism, and serving the needs of persons engaged in leisure time activities.

Families of Occupations

Travel Bureau/Travel Agencies--Occupations concerned with providing travel information and accommodations

Transportation--Occupations concerned with providing services for traveler comfort

Public Industrial and Private Recreation--Occupations concerned with performing or arranging recreation and entertainment activities, such as athletics, dining, and amusements

Recreation Involving the Use of Natural Resources--Occupations concerned with recreational resources provided by nature, such as ocean beaches, lakes, forests, parks, and private summer camps

Examples of Occupations

Hotel Desk Clerk
Travel Agent
Tour Guide
Professional Athlete
Umpire
Circus Ring Master
Clown
Magician
Ice Skating Instructor
Usher
Jockey (horse-racer)
Camp Counselor
Lifeguard
Golf Course Attendant
Waiter/Waitress

OCCUPATIONAL CLUSTERS

ACTIVITY: Working in a Travel Agency

OBJECTIVE: After completing this activity, the student should be able to name two or more duties, functions, or responsibilities of a travel agent.

APPROXIMATE TIME: 80-150 minutes

MATERIALS: Handouts: Hoppin' Hooper's Travel Agency, Working Itinerary, Hotel/Motel Guide, Hotel/Motel Reservation Form, Airline Ticket Form, Invoice; paper; pen or pencil; airline schedules (available from airline companies); travel posters and brochures (available from local travel agencies or state/national tourist bureaus)

DIRECTIONS: Before the date of the activity, secure airline schedules and travel posters and brochures. These materials will lend "atmosphere" to the activity. Create information such as addresses for the travelers and costs of airline tickets (from the airline schedules). Write this information on the board for students to copy onto the appropriate sheets. Decorate the room with the posters.

Distribute copies of all of the handouts. Introduce the activity by having the students read Hoppin' Hopper's Travel Agency. Discuss the background information. Then, review the forms with the students, answering questions as needed. Pass around copies of airline schedules and travel brochures.

Refer the students to information written on the board. Explain the differences between single and double hotel rooms and between "first class" and "coach" ("tourist") airline ticket costs or fares. Tell the students to keep in mind background information on each of the two travelers as they make decisions about airfare and hotel costs. Ask students to work individually in completing the forms. When the students have finished, ask for volunteers to share their work with the group.

Variations on the activity should be noted. The teacher may wish to make-up background information on other "travelers." The students could be divided into groups for each of the sets of travelers. Also, if a sufficient number of airline schedules are available, then the students can actually use the schedules to select routes, airfares, and related information.

OCCUPATIONAL CLUSTERS

HOPPIN' HOPPER'S TRAVEL AGENCY

Background Information:

Nowhere else in the world is there a nation whose people travel more than here in the United States. We have more cars, buses, trains, and airplanes than any other country in the world. The car is the most popular form of transportation. Americans own almost half of all the cars in the world. Because Americans travel in their cars so much, the hospitality and recreation career cluster has grown very fast since all these travelers have to eat and sleep. Today we have more leisure (free) time and more money so Americans are traveling more and more for recreational purposes.

Travel agencies are one type of travel business. Travel agencies help travelers by giving them travel information, planning trips, and making the transportation, lodging, and entertainment reservations for the travelers. These services are free to the customer because the travel agencies get money for the reservations they sell from the airlines, hotels, and other places. For example, if a person has a travel agent make reservations on a plane to New York, the airline company pays the travel agent for making the reservations on its planes.

The main purpose of a travel agency is to make traveling as easy and pleasant as possible. The travel agency gives information to the person planning a trip. Making reservations is the second service offered by a travel agency. The third service offered is planning trips for travelers. For example, if a family is planning a trip to Hawaii, and they have never been before, they do not know the best places to go or to stay. If they talk to a travel agency before they leave they can find out all they want to know and have the best trip planned for them.

Activity:

You will pretend to be an agent at Hoppin' Hopper's Travel Agency. You will make all the plans and arrangements for two different travelers that are each taking a two-week trip.

Making the Arrangements:

1. Fill out the flight and lodging information for each traveler.
2. Fill in the flight itinerary and the lodging section of the working itinerary.
3. Using your working itinerary, fill out the airline ticket.
4. Fill out the hotel/motel reservation form.
5. Figure the cost of the trip. Fill out an invoice.

Trip Information:

Traveler One: Lou Martinez, a retired business person living in

OCCUPATIONAL CLUSTERS

HOPPIN' HOPPER'S TRAVEL AGENCY (Continued)

New York, is taking a two-week vacation. Lou would like to fly to Los Angeles, spend three days visiting a daughter, then fly to Honolulu, Hawaii, for ten days of fun in the sun. Then Lou plans to fly home. Martinez is very rich and likes to stay in the best hotels.

Flight Information

Leaving from: New York Date: October 1st

to: Los Angeles Date: _____ (stay for 3 days)

from: Honolulu Date: _____ (stay for 10 days)

to: New York Date: _____

Lodging Information

City: Los Angeles (3 nights) Date in: _____

Date out: _____

Honolulu (10 nights) Date in: _____

Date out: _____

Traveler Two: Pat Carter lives in Chicago. Pat is taking a two-week vacation and would like to spend three days visiting grandparents, who live in New York. Then Pat wants to fly to Honolulu for 10 days of surfing, sightseeing, and shopping. Carter is on a limited budget and does not have much money to spend.

Flight Information

Leaving from: Chicago Date: October 15th

to: New York Date: _____ (stay 3 nights)

to: Honolulu Date: _____ (stay 10 nights)

to: Chicago Date: _____

Lodging Information

City: New York (3 nights) Date in: _____

Date out: _____

Honolulu (10 nights) Date in: _____

Date out: _____

OCCUPATIONAL CLUSTERS

WORKING ITINERARY

Traveler's Name _____

Address _____

_____

Phone _____ Date _____

Flight Itinerary:

Date		Time	City	Airline-Flight No.	Fare
	Lv				
	Ar				
	Lv				
	Ar				
	Lv				
	Ar				

Hotel-Motel Itinerary:

City	Name/Address of Hotel	No.Days	Arrive	Leave	Rate	Total

OCCUPATIONAL CLUSTERS

HOTEL/MOTEL GUIDE

Honolulu:

Waikiki Beach Inn, 1183 Waikiki Drive, Honolulu, HI 96815. Single $36, Double $40. Located high above the water on a towering cliff with a breathtaking view of the sea. Golf, tennis, hiking, swimming, sightseeing tours available. Close to Waikiki Beach, one of the world's best surfing spots.

Hawaiian House, 1655 Village Drive, Honolulu, HI 96814. Single $34, Double $38. Located on the island's coast. Choose from six restaurants offering American, Continental, or Polynesian food. Big-game fishing, dinner cruise, shops, shows, and luaus available.

Pineapple Plaza Hotel, 2731 Village Drive, Honolulu, HI 96815 Single $18, Double $24. Located on Waikiki Beach near famous restaurants, nightclubs, and shops. All at a price you can afford.

Aloha Hotel, 1417 Palm Blvd., Honolulu, HI 96818. Single $10, Double $14. Priced for the economy-minded person. Coffee shop and lounge; friendly service.

Chicago:

Southside Inn, 5710 South Illinois Ave., Chicago, IL 60515. Single $26, Double $30. Suites available; excellent accomodations overlooking Lake Michigan. Two restaurants, lounge, shops, pool, and sundeck; King-size beds in all rooms.

Hubbard Hotel, 400 Main Street, Chicago, IL 60510. Single $22, Double $26. Elegant rooms, excellent restaurant and lounge offering live entertainment nightly; covered parking, pool, tour arrangements.

Trails Inn, 1000 S. Eubank, Chicago, Il 60505, Single $15, Double $18, Clean, comfortable room priced right; coffee shop and pool; pets welcome.

Los Angeles:

Gracy Woods Hotel, 1520 Wilshire Blvd, Los Angeles, CA 90014. Single $27, Double $32. Luxury rooms and excellent personal service; three fine restaurants, heated pool, tennis courts, airport limousine service; entertainment nightly in the Starlight Room.

Queens Inn, 2700 Exposition, Los Angeles, CA 90009. Single $24, Double $30. Convenient to shows, stadium, movie and TV studies, and shopping; excellent food, two lounges, pool and sundeck; friendly staff.

OCCUPATIONAL CLUSTERS

HOTEL/MOTEL GUIDE (Continued)

Desert Hotel, 620 Ebony Drive, Los Angeles, CA 90015. Single $16, Double $22. Well-priced, very popular with families; friendly service; located near business district; coffee shop and pool.

Sands Motel, 2900 Oceanview, Los Angeles, CA 90018. Single $12, Double $15. Why pay so much for a place to sleep? Save your money to enjoy the sights. Clean rooms in the heart of the city, coffee shop.

New York:

Gallagher Hotel, 240 Central Park South, New York, NY 10018. Single $38, Double $48. One of the finest hotels in the country, located near Fifth Avenue, Rockefeller Center, and theatres; excellent service, charming decor, entertainment and dancing nightly, indoor pool.

Italian Arms, 1122 E. 61st Street, New York, NY 10011. Single $28, Double $36. Minutes from Broadway theatres and Fifth Avenue shops; spacious rooms, convention facilities.

Downtowner, 11833 76th Street, New York, NY 10011. Single $22, Double $30. Attractive rooms, restaurant and lounge, covered parking; located in the heart of the city.

Starr Motel, 2453 Highway 60, New York, NY 10036. Single $12, Double $16. Nice rooms, air-conditioned, coffee shop, covered parking, convenient to bus and train.

OCCUPATIONAL CLUSTERS

HOTEL/MOTEL RESERVATION FORM

To Hotel-Motel _____

_____

_____

Please make reservations for:

Name _____

Address _____

_____

Number of Nights: _____ Date of Arrival: _____

Date of Departure: _____

Type of Room: Single _____ Double _____

Price per Night: _____ Total: _____

To Hotel-Motel _____

_____

_____

Please make reservations for:

Name _____

Address _____

_____

Number of Nights: _____ Date of Arrival: _____

Date of Departure: _____

Type of Room: Single _____ Double _____

Price per Night: _____ Total: _____

OCCUPATIONAL CLUSTERS

AIRLINE TICKET FORM

Name of Passenger:							
Good for Passage between these points:	Air-line	Class	Flight No.	Fare	Date	Depart Time	Arrive Time
From							
To							
To							
To							
Fare Total:							

OCCUPATIONAL CLUSTERS

INVOICE

Bill to: _____

_____

_____

Flight Costs Price

From _____ to _____ _____

From _____ to _____ _____

From _____ to _____ _____

Total: _____ (A)

Lodging Costs Price

City _____ _____

City _____ _____

Total: _____ (B)

Total Cost of Trip: _____
(A + B)

Figured by: _____

OCCUPATIONAL CLUSTERS

ACTIVITY: Planning Recreational Activities

OBJECTIVE: After completing this activity, the student should be able to list at least three suitable recreational activities for a day camp.

APPROXIMATE TIME: 45 - 110 minutes

MATERIALS: Handouts: Information Sheet, Activity List, Daily Schedule --River Oaks Day Camp; pen or pencil

DIRECTIONS: Introduce the activity by briefly describing day camps and the types of recreation that they provide. Divide the class into approximately five groups. Explain that each group will be responsible for planning two day's activities for "River Oaks Day Camp."

Distribute copies of the handouts. Read the Information Sheet with the students. Answer any questions and clarify the assignment. Tell students to produce their own copies of the list and schedule. However, encourage them to share ideas and information in their groups.

OCCUPATIONAL CLUSTERS

INFORMATION SHEET

Your group will be acting as Recreational Planners for River Oaks Day Camp. It is your responsibility to plan all the activities for two days at the camp for a group of 20 campers who are 10-year olds. Plan one day's activities for a warm, sunny day and the other day's activities for a rainy day.

Facts about River Oaks Day Camp:

1. It has a large, heated pool.
2. It has a large building which has bathrooms in it.
3. It has eight tennis courts.
4. It has a large grassy area cleared of trees.
5. It is located on a small gently flowing river.
6. The camp is open from 8:30 a.m. to 4:30 p.m. every weekday.
7. It has all the equipment and supplies you will need.

What you will do:

1. Your group should make a list of all the activities you can think of for each category on the Activity List.
2. Your group should decide which activities to use in planning the Daily Schedules.
3. Each member will fill out the Daily Schedule.

Things to Remember:

1. Plan activities appropriate to the weather.
2. Plan activities appropriate to the age group.
3. Make sure the activities are varied (a whole day of tennis isn't too interesting!)
4. Plan activities which offer a change of pace. (Three hours of exhausting activities in the sun will result in some sick campers!)

OCCUPATIONAL CLUSTERS

ACTIVITY LIST

TEAM ATHLETICS

INDIVIDUAL SPORTS

WATER ACTIVITIES

NATURE AND SCIENCE

QUIET OR INDOOR ACTIVITIES

ARTS AND CRAFTS PROJECTS

OCCUPATIONAL CLUSTERS

DAILY SCHEDULE

RIVER OAKS DAY CAMP

Sunny day activities:

8:30 _____
9:30 _____ SNACK _____
10:00 _____
11:00 _____
12:00 _____ LUNCH _____
1:00 _____
2:00 _____
3:00 _____ SNACK _____
3:30 _____

Rainy day activities:

8:30 _____
9:30 _____ SNACK _____
10:00 _____
11:00 _____
12:00 _____ LUNCH _____
1:00 _____
2:00 _____
3:00 _____ SNACK _____
3:30 _____

OCCUPATIONAL CLUSTERS

ACTIVITY: Recognizing Individual Recreational Preferences

OBJECTIVE: After completing this activity, the student should be able to identify students with similar recreational interests and students with different preferences.

APPROXIMATE TIME: 25 - 50 minutes

MATERIALS: Handout: Individual Preferences in Recreation, pen or pencil, information about recreational activities--e.g., travel brochures, tourist magazines, entertainment and special nightlife sections of the newspaper, dining guides, museum guides, and other similar materials

DIRECTIONS: Secure copies of informational materials regarding recreational activities and resources, especially those in the local community. The materials are readily available from newspaper, travel agencies, convention directors, chambers of commerce, restaurant owners' associations, hotel public relations persons, and other sources. Before the activity begins, place the materials around the room on tables or at several work stations.

Distribute copies of the handout. Read the directions to the students and fully explain the assignment. Ask students to move around the room, reviewing the materials and selecting at least two activities that they would like to do. Explain that "preference" means what someone likes or prefers to do if given a choice. Remind students to record their "preferences" on the handout sheet.

In the second half of the activity, each student will tell the class which activities were chosen. The other students should listen and then decide if the preferred activities of the speaker are similar or different to those they individually selected. At least five student names and their activities should be recorded on the handout for "similar" and "different" recreational interests.

Explain to the students that differences in individual preferences demand that a large number of recreational activities be made available. Generally discuss the wide range of recreation and the large number of occupations involved in this exciting field.

OCCUPATIONAL CLUSTERS

INDIVIDUAL PREFERENCES IN RECREATION

Directions: In the blanks below, write down two or more activities that you would like to do. Later, when other students present their preferences, write down their names and the activities they selected under the proper heading: "Similar Preferences" or "Different Preferences."

My Preferences:

1. _____ 4. _____

2. _____ 5. _____

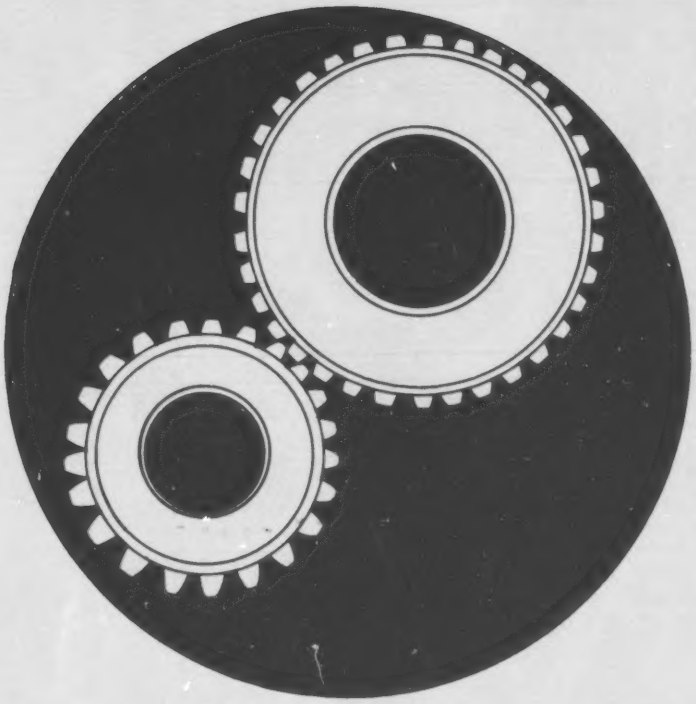
3. _____ 6. _____

Preferences of Other Students:

Similar Preferences		Different Preferences	
Student	Activity	Student	Activity
1.		1.	
2.		2.	
3.		3.	
4.		4.	
5.		5.	
6.		6.	
7.		7.	
8.		8.	
9.		9.	
10.		10.	

OCCUPATIONAL CLUSTERS

MANUFACTURING



OCCUPATIONAL CLUSTERS

ACTIVITY: Introducing the Manufacturing Cluster

OBJECTIVE: After completing this activity, the student should be able to name at least two families of occupations within the cluster, and give at least two examples of occupations within each family.

APPROXIMATE TIME: 100 - 180 minutes

MATERIALS: Handout: Manufacturing Careers, Occupational Research (Appendix Two); teacher reference: Manufacturing Cluster; various classroom resources (e.g., Dictionary of Occupational Titles, Occupational Outlook Handbook, magazines, brochures, and books); paper; pencil or pen; series of overlays (from Appendix One transparency masters)

DIRECTIONS: Distribute copies of the handout. Introduce the activity by using the series of overlays (Appendix One). The transparencies reinforce the concepts of cluster, family, and occupation. Ask students to name two families and five occupations within one of the families. Write the names on the transparency.

Discuss the characteristics and requirements for some of the familiar occupations within the cluster. Give the titles of some of the less familiar occupations. Ask for volunteers to study the occupations and report on them at the next class meeting. Suggest that students use the Occupational Research form (Appendix Two) in preparing the five to ten minute reports. After the reports have been completed at the next class meeting, discuss the cluster generally. The teacher should be prepared to answer questions about a wide range of manufacturing occupations.

OCCUPATIONAL CLUSTERS

MANUFACTURING CAREERS

Definition: Those occupations involved in the design and assembly of parts and products

Family of Occupations	Description of Family
Management	Occupations involved in the administration and supervision of a manufacturing plant
Scientist	Occupations involved in basic research of products and manufacturing methods
Engineers	Occupations involved in the practical application of scientific findings
Technicians	Occupations involved in specialized operations in many areas of manufacturing
Skilled Workers	Occupations involved in work requiring high levels of ability without direct supervision
Semi-Skilled Workers	Occupations involved in work requiring the performance of routine tasks with little supervision
Unskilled Laborers	Occupations involved in work requiring physical effort and direct supervision

Family of Occupations	Examples of Occupations	D.O.T.
Management	President	189.117-026
	Personnel Services Manager	166.167-018
	Industrial Organization Manager	189.117-022
	Labor Relations Manager	166.167-034
	Product Development Manager	189.117-014
Scientist	Analytical Chemist	022.061-010
	Organic Chemist	022.061-010
	Physicist	023.061-014
Engineers	Electrical Engineer	003.061-010
	Mechinical Engineer	007.061-014
	Aeronautical Engineer	002.061-014
	Ceramic Engineer	006.061-014
	Chemical Engineer	008.061-018

OCCUPATIONAL CLUSTERS

MANUFACTURING CAREERS (Continued)

Family of Occupations	Examples of Occupations	D.O.T.
Technicians	Mathematical Technician	020.162-010
	Metallurgical Technician	011.261-010
	Quality Control Technician	012.261-014
Skilled Workers	Tool Designer	007.061-026
	Die Maker	601.281-010
	Maintenance Electrician Supervisor	829.131-014
	Machinist	600.280-022
	Calibration Checker I	710.381-034
Semi-Skilled Workers	Kiln Operator	509.565-010
	Screw-Machine Operator	604.280-014
	Sucker Machine Operator	529.685-234
	Sewing Machine Operator	787.682-046
	Acid Extractor	558.382-010
Unskilled Workers	General Laborer	509.686-010
	Beads Baker	590.684-014
	Caster	502.482-010
	Bench Grinder	705.684-010
	Auto Roller	529.685-010

OCCUPATIONAL CLUSTERS

MANUFACTURING CLUSTER

Definition of Cluster

Those occupations involved in the design, assembly, or fabrication of products ranging from simple homemade products to huge complex devices.

Families of Occupations

Management--Occupations concerned with the administration of a manufacturing establishment, including the areas of supervision, sales, purchases, and public relations.

Scientists--Occupations involved in research regarding the quality of materials and of production.

Engineers--Occupations which make practical application of scientific findings to improve products.

Technicians--Occupations which assist scientists and engineers involving specialized work

Skilled workers--Occupations involving working in any area of the trade without direct supervision.

Semi- skilled workers--Occupations usually involved in the operation of machines in the performance of repetitious tasks requiring a minimum of direct supervision

Unskilled laborers--Occupations requiring the performance of work of a menial nature, usually under maximum direct supervision.

Examples of Occupations

Industrial Engineer
Tool Designer
Die Maker
Machinist
Bench Assembler
Floor Assembler
Die Casting Machine Operator
Foundry Laborer
Beads Baker (beads used in electrical components)
Electrophonics Technician
Industrial Organization Manager
Heavy Duty Press Operator
Electric Motor Analyst
Furnace Operator
General Laborer

OCCUPATIONAL CLUSTERS

ACTIVITY: Identifying Manufacturing Jobs

OBJECTIVE: After completing this activity, the student should be able to select at least five jobs or tasks involved in manufacturing a product.

APPROXIMATE TIME: 25 - 30 minutes

MATERIALS: Handout: Locate the Manufacturing Jobs; transparency (from transparency master); pencil

DIRECTIONS: Distribute copies of the handout to the students. Read the directions aloud and answer any questions and circle one of the words as an example or "starter." Provide assistance as needed. After 20 minutes, begin to show the students where the words are located. Declare the first student who finishes a "winner." Students who finish quickly may be called upon to aid those who are having difficulties. Briefly discuss other jobs involved in manufacturing products.

OCCUPATIONAL CLUSTERS

LOCATE THE MANUFACTURING JOBS

Directions: A number of jobs or tasks must be completing in order to manufacture a product. Locate the words that describe some of the jobs listed below. The words may be spelled backward or forward. The words may be located up-and-down, across, or diagonally.

A	E	Z	O	P	T	D	R	I	L	L	I	N	G	D	G
B	D	Y	L	Z	B	I	O	J	T	C	S	N	Y	O	T
E	E	N	G	I	N	E	E	R	I	N	G	I	G	Y	L
C	S	B	N	D	A	M	T	Z	L	B	U	D	R	O	E
G	I	E	I	P	T	A	S	S	E	M	B	L	I	N	G
K	G	A	T	S	U	K	M	K	T	D	Z	O	N	Z	N
M	N	S	C	A	B	I	B	G	O	A	Z	L	D	L	I
P	I	Q	E	A	C	N	G	Q	R	O	M	K	I	O	L
O	N	L	P	S	Y	G	N	I	D	L	E	W	N	J	L
Q	G	W	S	H	R	T	I	Q	R	C	B	A	G	T	O
W	U	S	N	Q	B	O	L	T	I	N	G	N	S	N	R
Z	L	T	I	T	G	K	L	O	Z	G	R	O	V	E	T
A	N	O	R	D	G	N	I	L	E	V	E	L	G	V	N
K	Z	B	A	D	M	L	M	O	I	U	G	O	T	S	O
L	R	E	S	E	A	R	C	H	I	N	G	E	P	O	C
P	O	D	M	A	C	H	I	N	I	N	G	H	O	L	L

Inspecting
Engineering
Milling
Leveling
Rolling

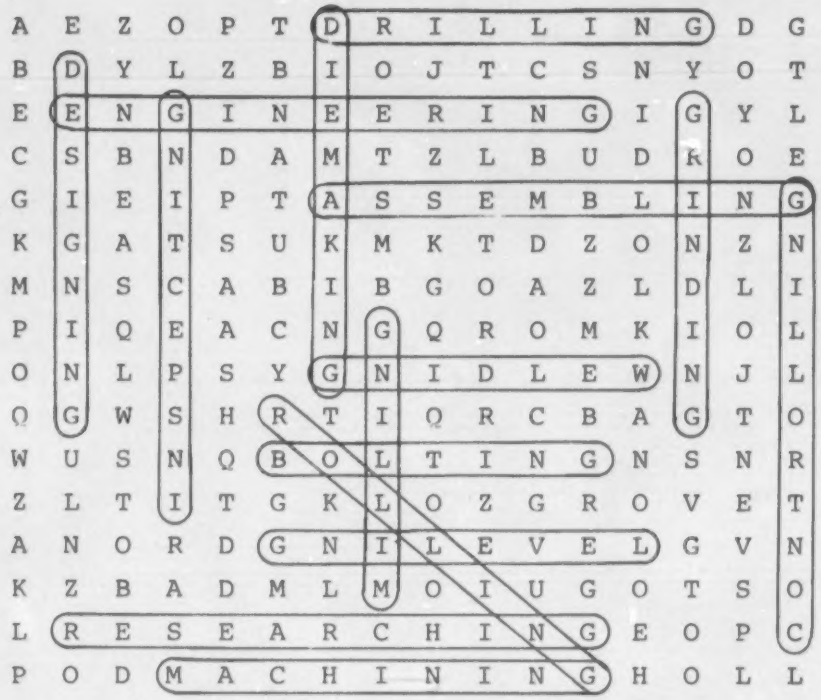
Controlling
Die making
Grinding
Bolting
Machining

Assembling
Designing
Welding
Researching
Drilling

OCCUPATIONAL CLUSTERS

LOCATE THE MANUFACTURING JOBS

ANSWER KEY


A E Z O P T D R I L L I N G D G
B D Y L Z B I O J T C S N Y O T
E E N G I N E E R I N G I G Y L
C S B N D A M T Z L B U D K O E
G I E I P T A S S E M B L I N G
K G A T S U K M K T D Z O N Z N
M N S C A B I B G O A Z L D L I
P I Q E A C N G Q R O M K I O L
O N L P S Y G N I D L E W N J L
Q G W S H R T I Q R C B A G T O
W U S N Q B O L T I N G N S N R
Z L T I T G K L O Z G R O V E T
A N O R D G N I L E V E L G V N
K Z B A D M L M O I U G O T S O
L R E S E A R C H I N G E O P C
P O D M A C H I N I N G H O L L

Inspecting
Engineering
Milling
Leveling
Rolling

Controlling
Die making
Grinding
Bolting
Machining

Assembling
Designing
Welding
Researching
Drilling

OCCUPATIONAL CLUSTERS

ACTIVITY: Inventing New Products

OBJECTIVE: After completing this activity, the student should be able to state at least one characteristic of an invention or new design.

APPROXIMATE TIME: 80-120 minutes

MATERIALS: Paper, pen or pencil, ruler, and other items as needed

DIRECTIONS: Tell the students that they will be responsible for designing or inventing a new product. Explain that the invention may be practical or imaginary, based on existing products or based on new ideas. The only requirements for the invention is that the student must be able to draw it and to describe what the product is or how it works. The activity encourages maximum creativity on the part of the students. They should complete the drawings or pictures of the inventions at home.

At the next class meeting, ask each student to share the invention with the class. After the new products have been presented, discuss the characteristics of inventions or innovations. Point out that an invention can be evaluated in a number of ways. The characteristics of "beneficial" inventions include the following.

1. practicality
2. simplicity
3. effectiveness
4. efficiency
5. economy
6. uniqueness
7. creativity
8. marketability
9. portability
10. durability

Define and discuss the various characteristics. Based upon their knowledge of the characteristics and the inventions, ask students to write on a "secret ballot" the name of the most beneficial new product. Declare the student who created the product the "master inventor."

Discuss recent inventions of products that have met American needs. For example, discuss plastic garbage can liners, soybean "meat" products, recycled paper, and so forth. Talk about the importance of research and development in manufacturing.

The activity may be completed by an alternative method. To avoid frustration, have small groups of students work on a single product. Three students per group would be an ideal assignment plan.

OCCUPATIONAL CLUSTERS

ACTIVITY: Flying

OBJECTIVE: After completing this activity, the student should be able to define at least one of the following aeronautical engineering terms: roll, glide, pitch, yaw.

APPROXIMATE TIME: 50 - 110 minutes

MATERIALS: Handout: Aeronautical Terms; paper; transparent tape; stapler and staples; staple remover; scissors; felt-tip pens

DIRECTIONS: In this activity, students learn some basic aeronautical terms by designing and flying paper airplanes. Before beginning the activity, place sufficient materials at several work stations so that a number of students may construct airplanes at one time.

Tell students that they should use the materials to make airplanes of their own designs. Distribute copies of the handout. Review the terms and their relations to design problems with the students. Explain that a flight competition will be conducted to locate the best airplane design.

Allow students to design, construct and "field test" their planes prior to the competition. Have two contests: one for glider-type models and one for dart-type models. Gliders must be held high and simply shoved off into the air. If possible, gliders should be dropped from second-story windows for maximum distance. Dart-type models requires a strong thrust from arm and wrist in order to "take off."

Conduct the flight competition. Recognize winners with small prizes or certificates. Also, ask the winners to discuss their designs with the group.

OCCUPATIONAL CLUSTERS

AERONAUTICAL TERMS

1. Roll --to rock from side to side

2. Glide--to coast down hill on the air, pulled by the force of gravity

3. Pitch--to tip up or down

4. Yaw--to turn to the left or right

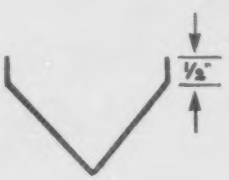
To solve design problems:

1. Roll--prevent rolling by folding the wing along its center line so that it has two wings with tips higher than center line. The model should look like this.

2. Glide--improve gliding by making the wings larger.

3. Pitch--prevent pitching by adding or removing weight from the nose. Use tape, staples or multiple paper folds. Turning the tail edge up or down may also be beneficial.

4. Yaw--control yawing by making rudders or bending up along each wing ½ inch. Also make sure that the model is exactly the same on both sides of the center fold line. The model should look like this.



OCCUPATIONAL CLUSTERS

MARINE SCIENCE

OCCUPATIONAL CLUSTERS

ACTIVITY: Introducing the Marine Science Cluster

OBJECTIVE: After completing this activity, the student should be able to name at least two families of occupations within the cluster and give two examples of occupations within each family.

APPROXIMATE TIME: 100 - 120 minutes

MATERIALS: Handout: Marine Science Careers; teacher reference: Marine Science Cluster; classroom resources such as Dictionary of Occupational Titles, Occupational Outlook Handbook, magazines, and brochures; paper; pencil or pen; series of overlays (from transparency masters in Appendix One)

DIRECTIONS: Distribute copies of the handout. Use the series of overlays to reinforce the concepts of cluster, family, and occupation. Ask the students to name two families and five occupations within one of the families. Write the names on the transparency.

Discuss some of the familiar occupations within the cluster. Read a description of a less familiar occupation selected before the date of the activity. Make the following assignment -- Students should identify and study occupations within two emerging marine science fields: off-shore drilling and mineral extraction, and ocean farming. Point out how important these activities will be in the future. Each student should research the characteristics and requirements for one or more occupations. They should prepare brief reports for the next class meeting. Call upon various students to present their reports until a wide range of occupations have been considered. Time during the first class period can be used to prepare for the reports.

OCCUPATIONAL CLUSTERS

MARINE SCIENCE CAREERS

Definition: Those occupations involved in the development and cultivation of ocean resources

Family of Occupations	Description of Family
Research	Occupations involved in the exploration and basic study of various aspects of the marine environment
Chemical and Mineral Extraction	Occupations involved in locating and obtaining minerals and chemicals from the ocean floor
Off-Shore Drilling	Occupations involved in locating and securing petroleum (oil and gas) products from the ocean floor
Fishing	Occupations involved in harvesting fish and marine produce
Aquaculture	Occupations involved in cultivating marine life in controlled environment
Marine Engineering and Technology	Occupations involved in the design and construction of marine vessels (ships) and instruments
Surface and On-Shore Support	Occupations involved in supporting or assisting with the various marine science activities

Family of Occupations	Examples of Occupations	D.O.T.
Research	Aquatic Biologist	041.061-022
	Marine Geologist	024.061-018
	Hydrographer	025.264-010
	Hydrologist	024.061-034
	Marine Meteorologist	025.062-010
Chemical and Mineral Extraction	Mining Engineer	010.061-014
	Metallurgical Technician	011.261-010
	Extractive Metallurgist	011.061-018
	Mineralogist	024.061-038
	Miner	939.281-010

OCCUPATIONAL CLUSTERS

MARINE SCIENCE CAREERS (Continued)

Off-Shore Drilling	Petroleum Geologist	024.061-022
	Driller Helper	930.684-026
	Driller	930.382-018
	Drilling Inspector	930.167-010
	Petroleum Engineer	010.061-018
Fishing	Trot Line Fisher	442.684-010
	Trawl Net Fisher	551.684-010
	Clam Fisher	446.684-014
	Shellfish Shucker	521.587-122
	Sponge Diver	443.664-010
Aquaculture	Aquaculturist	041.061-022
	Fish Culturist	180.167-030
	Shellfish Grower	446.161-014
	Fish Hatchery Worker	446.684-010
	Fish Farmer	446.161-010
Marine Engineering and Technology	Marine Engineer	014.061-014
	Diver	899.261-010
	Diver Pumper	899.682-010
	Marine Drafter	014.281-010
	Marine Architect	001.061-014
Surface and On-Shore	Marine Machinist Apprentice	623.281-022
	Motorboat Mechanic	623.281-038
	Dock Supervisor	891.131-010
	Fishing Vessel Deckhand	449.667-010
	Sailmaker	739.381-010

OCCUPATIONAL CLUSTERS

MARINE SCIENCE CLUSTER

Definition of Cluster

Those occupations involved in the discovery, development, cultivation, and/or harvesting of marine life and other ocean resources.

Families of Occupations

Research--Occupations concerned with exploring, surveying, and analyzing the physical, chemical, biological, and geophysical aspects of the marine environment.

Chemical and Mineral Extraction--Occupations concerned with locating and extracting minerals and chemicals from the ocean and ocean floor.

Off-shore Drilling--Occupations concerned with locating and extracting petroleum and natural gas from the continental shelf in open sea water.

Fishing--Occupations concerned with harvesting fish and other marine produce.

Aquaculture--Occupations involved in the cultivation of marine life in a controlled environment.

Marine Engineering and Technology--Occupations concerned with the design and construction of surface and underwater vessels and instruments used for marine exploration and exploitation

Surface and On-Shore Support--Occupations which include a wide range of support personnel who process, market, and distribute marine produce; operate, maintain, and repair all vessels; and work in laboratories.

Examples of Occupations

Aquatic Biologist
Hydrologist
Clam Dredge Operator
Shellfish Shucker
Frog Farmer
Fish Farmer
Skin Diver
Marine Engineer
Underwater Vessel Operator
Marine Meteorologist
Sponge Gatherer
Fishery Bacteriologist
Marine Engine Machinist
Marine Laboratory Assistant
Kelp Cutter

OCCUPATIONAL CLUSTERS

ACTIVITY: Going Fishing

OBJECTIVE: After completing this activity, the student should be able to recognize and define three or more marine science words when presented a list of terms.

APPROXIMATE TIME: 50 - 55 minutes

MATERIALS: Handout: Go Fishing, teacher reference: Answer Key for Go Fishing, pen or pencil, classroom resources--e.g., magazines, Dictionary of Occupational Titles, Occupational Outlook Quarterly, and related materials

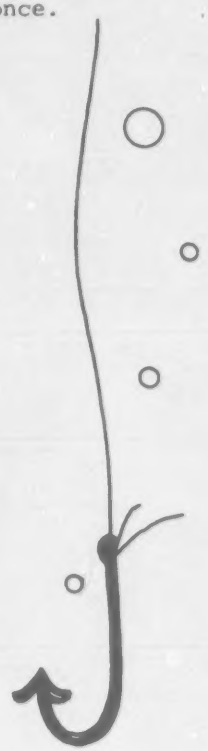
DIRECTIONS: Distribute copies of the handout. Review the directions. Ask each student to complete the Go Fishing form, using classroom resources as needed. Declare the first three students who finish the activity "master fishers."

OCCUPATIONAL CLUSTERS

GO FISHING

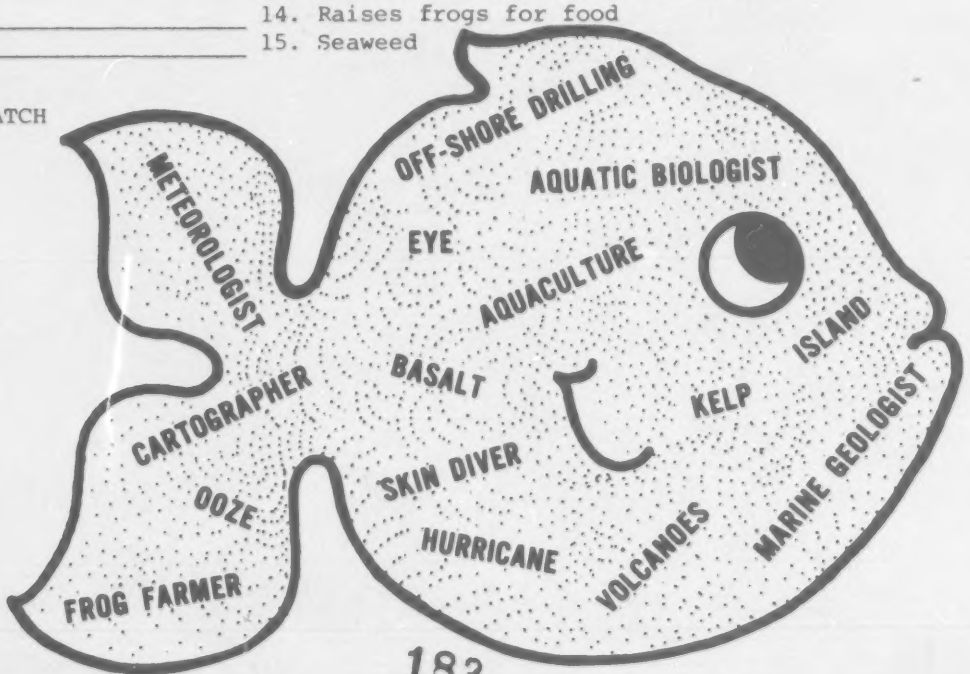
Instructions: Match the words (the catch) with the terms (the bait) by writing the correct words in the blanks. Use each word only once.

THE BAIT



_____ 1. Bottom of the ocean basins
_____ 2. Mud which covers the ocean floor
_____ 3. The part of the mountain which reaches above the water level
_____ 4. A mapmaker
_____ 5. A severe storm in the Atlantic Ocean
_____ 6. The Hawaiian Islands were formed by these
_____ 7. Underwater farming
_____ 8. Studies the atmosphere
_____ 9. Center of a hurricane
_____ 10. Studies marine plants and animals and the environmental conditions that affect people
_____ 11. Studies the composition, structure, and history of the ocean floor
_____ 12. Operations performed in the open sea from stationary platforms or floating rigs
_____ 13. Works underwater, wearing an insulated suit and pressure tanks of air
_____ 14. Raises frogs for food
_____ 15. Seaweed

THE CATCH



OCCUPATIONAL CLUSTERS

ANSWER KEY FOR GO FISHING

1. basalt
2. ooze
3. island
4. cartographer
5. hurricane
6. volcanoes
7. aquaculture
8. meteorologist
9. eye
10. aquatic biologist
11. marine geologist
12. off-shore drilling
13. skin diver
14. frog farmer
15. kelp

OCCUPATIONAL CLUSTERS

ACTIVITY: Exploring Dangers of the Deep

OBJECTIVES: After completing this activity, the student should be able to describe the duties and responsibilities of at least three marine science occupations.

APPROXIMATE TIME: 80 - 120 minutes

MATERIALS: Handouts: Dangers of the Deep Game Board, Dangers of the Deep Game Cut-Outs, Dangers of the Deep Game Answers; teacher reference: Dangers of the Deep Game Example; die; classroom resources

DIRECTIONS: Tell the student that they will be responsible for playing a game that used information about marine science occupations. Explain that the "Dangers of the Deep Game" requires a game board, a die, 15 playing cards, 2 cut-out playing peices (skindiver and shark), and an answer sheet. The object of the game is to be the first player to reach the "surface" by correctly describing the occupations playing cards.

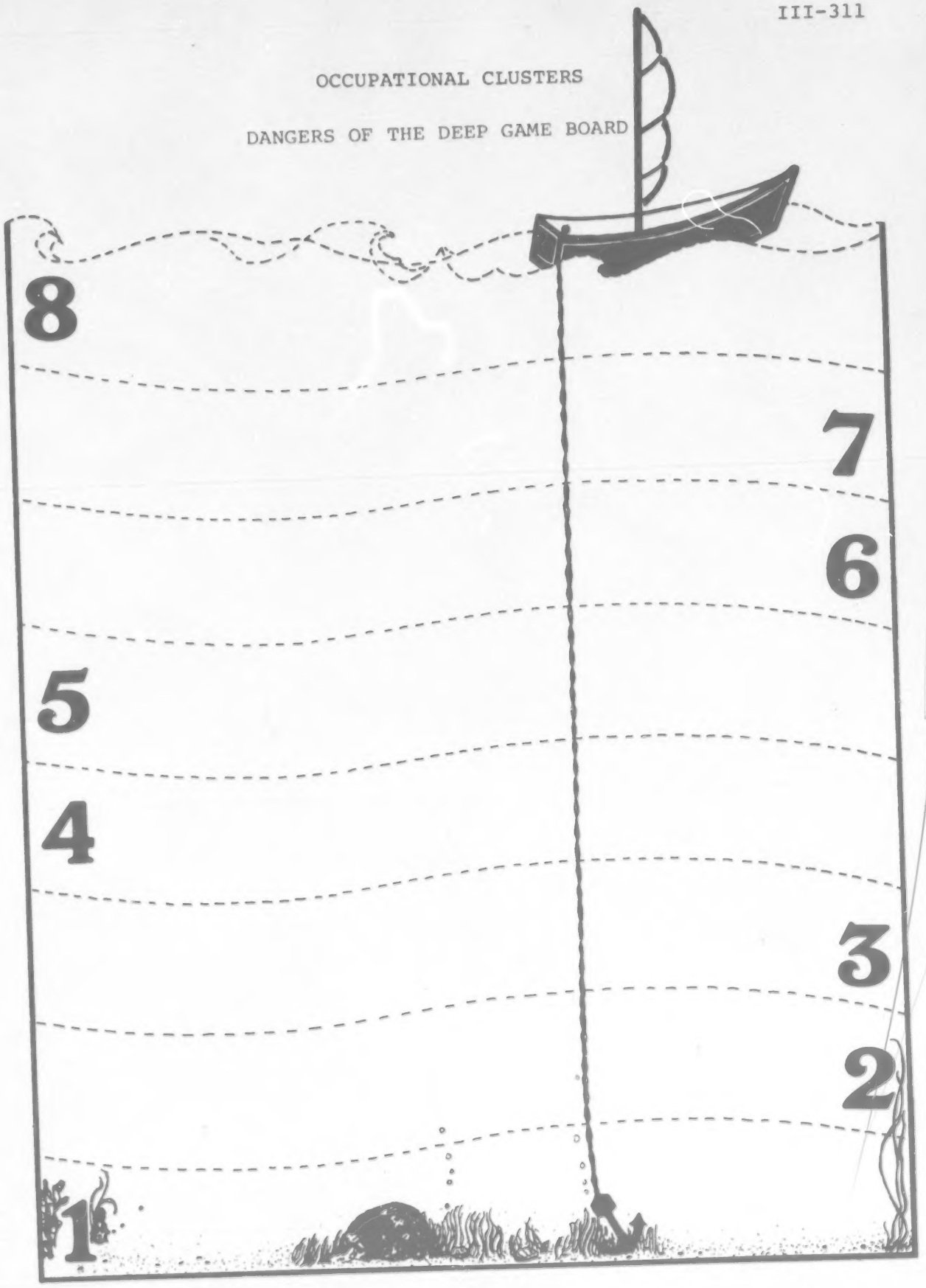
Divide the class into groups of three. One person will be responsible for deciding whether or not the occupational descriptions are correct. Give this person in each group a copy of the Answers. The person may make decisions about player responses based on this sheet or may use classroom resources such as the Dictionary of Occupational Titles.

The remaining two persons in each group will be players. One will be the diver and one will be the shark. The diver wishes to get to the surface and board the boat. The shark wishes to reach the surface first and keep the diver from boarding. Each player takes turns at describing an occupation on a playing card. Players roll the die to start the game--the one with the higher number draws the first playing card from the pile. If this player cannot answer, then the other gets an opportunity to correctly describe the occupation in question. Each time a player answer correctly the piece selected by the player (e.g., the shark) is moved to the next highest level (e.g., from one to two).

Before beginning the game, the "skindiver" and "shark," as well as the "playing cards" must be cut-out. A sufficient number of dice for the groups must also be made available. Distribute copies of the Board and Cut-outs to each group at the beginning of the activity.

OCCUPATIONAL CLUSTERS

DANGERS OF THE DEEP GAME BOARD



OCCUPATIONAL CLUSTERS

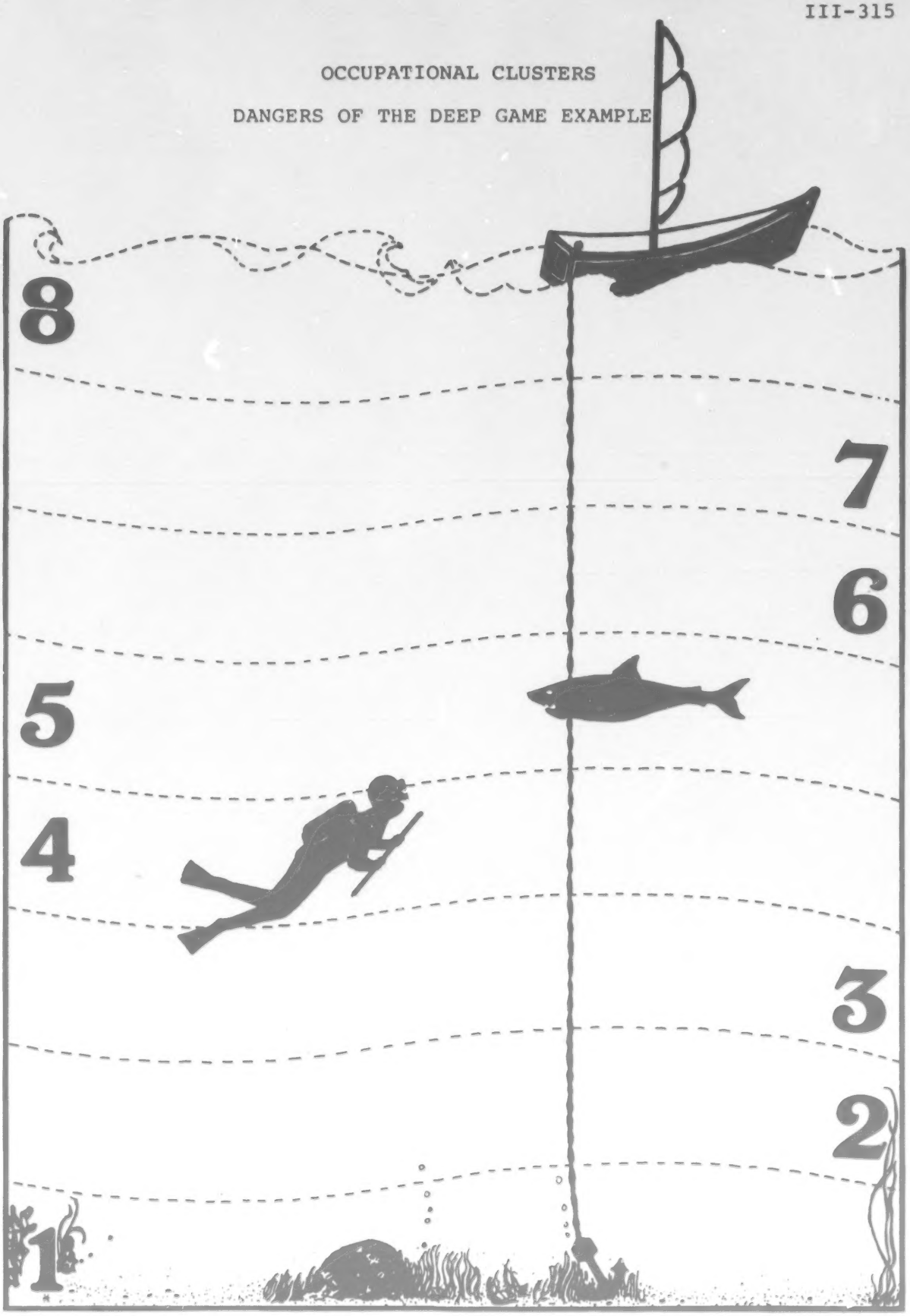
DANGERS OF THE DEEP CUT-OUTS

PLAYING CARDS

1. Marine Oiler 911.584-010	2. Diver 899.261-010	3. Diver Pumper 899.682-010
4. Net Fisher 441.684-010	5. Marine Engine Mechanic 623.281-026	6. Fish farmer 446.161-010
7. Diver Helper 899.664-010	8. Hydrologist 024.061-034	9. Clam Fisher 446.684-014
10. Marine Engineer 014.061-014	11. Aquaculturist 041.061-022	12. Dock Supervisor 891.131-010
13. Marine Meteorologist 025.062-010	14. Marine Geologist 024.061-018	15. Marine Drafter 014.281-010

OCCUPATIONAL CLUSTERS

DANGERS OF THE DEEP GAME EXAMPLE



OCCUPATIONAL CLUSTERS

DANGERS OF THE DEEP ANSWERS

1. Marine Oiler-oils and greases moving parts such as gears, shafts, and engines on marine vessels

2. Diver--feeds and identifies fish and other marine life and completes other assignments under water; wears a diving suit and helmet to work on floor of tank or ocean

3. Diver Pumper--operates a portable pump or compressor to provide air for underwater diver

4. Net Fisher--tows or anchors net to catch marine life such as fish, shrimp, and turtles

5. Marine Engine Mechanic--installs and repairs gasoline and diesel engines in boats and other fishing vessels

6. Fish Farmer--spawns and raises fish for profit much like a farmer on land

7. Diver Helper--helps diver into equipment after examining it for leaks and damage

8. Hydrologist--studies and charts rainfall and water flow as they relate to bodies of water; forecasts and controls drought and flood on land

9. Clam Fisher--cultivates and harvests shellfish crop from mud bed

10. Marine Engineer-designs and supervises the installation of machanical and electric equipment in ships, docks, and marine facilities

11. Aquaculturist--specializes in breeding and raising of shrimp, lobsters, fish, and other aquatic life for commercial purposes

12. Dock Supervisor--coordinates maintenance, repair, cleaning, and securing of ships and other marine vessels

13. Marine meteorologist--analyzes weather reports and forecasts and predicts conditions at sea

14. Marine Geologist--studies the structure and contents of the ocean bottom

15. Marine Drafter--draw structural and mechanical designs for ships, docks, and marine equipment

OCCUPATIONAL CLUSTERS

ACTIVITY: Learning About Marine Science Subjects

OBJECTIVE: After completing this activity, the student should be able to list objects of interest to marine scientists or products of marine science activities.

APPROXIMATE TIME: 60 - 120 minutes

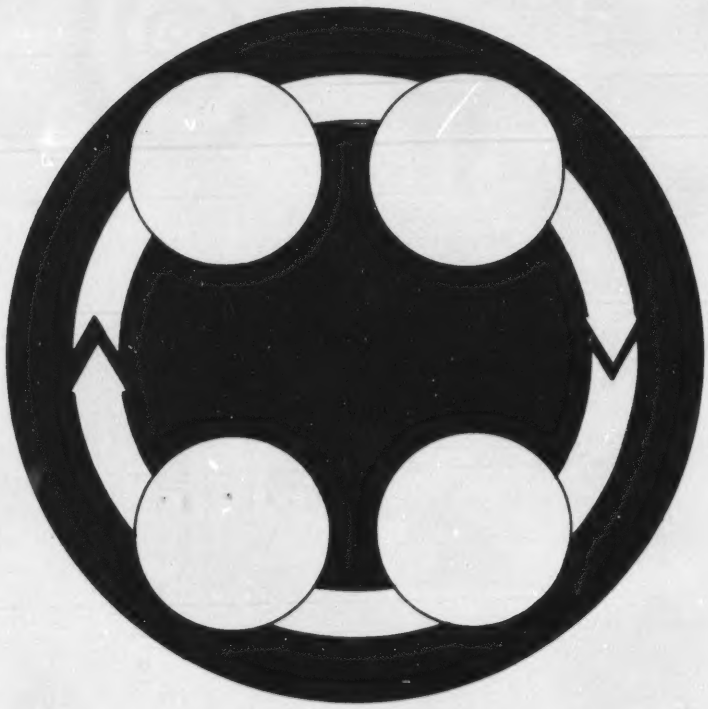
MATERIALS: Classroom resources such as, encyclopedia, magazines, books, Occupational Outlook Quarterly, and brochures; paper; pen or pencil

DIRECTIONS: Tell students to select some aspect of a field within marine science that is personally interesting. Ask them to study the area and write a brief list of objects required for the success of this marine science activity. On the other hand, some students may wish to write a list of products--e.g., in the fishing family of occupations. The lists may reflect interests in occupations, jobs, tools, boats, kinds of marine life, and other relevant concerns.

Allow time for study during the class meeting. Students should begin work on the lists during the period. Some individuals may wish to complete the lists at home. Collect the assignments at the next class meeting.

OCCUPATIONAL CLUSTERS

MARKETING AND DISTRIBUTION



OCCUPATIONAL CLUSTERS

ACTIVITY: Introducing the Marketing and Distribution Cluster

OBJECTIVE: After completing this activity, the student should be able to name at least two families of occupations within the cluster, and give at least two examples of occupations within each family.

APPROXIMATE TIME: 100 - 120 minutes

MATERIALS: Handouts: Marketing and Distribution Careers, Occupational Research (Appendix Two); teacher reference: Marketing and Distribution Cluster; classroom resources: Dictionary of Occupational Titles, Career World, Occupational Outlook Quarterly, magazines, and books; pencil or pen; series of overlays (from transparency masters in Appendix One)

DIRECTIONS: Introduce the activity by using the series of overlays (Appendix One) to reinforce the concepts of cluster, family, and occupation. Distribute copies of the handouts. Ask students to name two families and five occupations within one of the two families. Write the names on the transparency.

Discuss the characteristics of some of the familiar occupations within the cluster. Read the names of some of the less familiar occupations. Ask volunteers to prepare brief reports on the unfamiliar occupations. Suggest that they use the Occupational Research form (Appendix Two) to prepare for the five-to ten-minute presentations. Schedule the reports for the next class meeting. After the reports discuss marketing and distribution careers as they relate to work in the other clusters.

OCCUPATIONAL CLUSTERS

MARKETING AND DISTRIBUTION CAREERS

Definition: Those occupations involved in transferring goods from producers to consumers

Family of Occupations	Description of Family
Marketing Management	Occupations involved in planning and directing work in distribution and marketing
Marketing Research and Analysis	Occupations involved in studying and predicting the buying practices of consumers
Purchasing	Occupations involved in buying materials and equipment, often for resale
Sales Promotion and Training	Occupations involved in creating a demand for products
Selling	Occupations involved in contracting or persuading persons to buy a product
Physical Distribution	Occupations involved in storing and handling goods and products
Related Business Services	Occupations involved in business and office activities related to marketing

Family of Occupations	Examples of Occupations	D.O.T.
Marketing Management	Sales Manager	163.167-018
	Merchandise Manager	185.167-034
	Advertising Manager	164.117-010
	Warehouse Manager	184.167-014
	Wholesaler	185.167-070
Marketing Research and Analysis	Market Research Analyst II	045.107-030
	Statistician	020.167-026
	Systems Analyst	012.167-066
	Tabulating Supervisor	213.132-014
	Investigator	376.267-022
Purchasing	Purchasing Agent	162.157-038
	Broker	162.157-042
	Assistant Buyer	162.157-022
	Importer	185.157-018
	Distributor	929.687-030

OCCUPATIONAL CLUSTERS

MARKETING AND DISTRIBUTION CAREERS (Continued)

Sales Promotion and Training	Product Development Worker	804.281-010
	Demonstrator,	297.354-010
	Model	297.667-014
	Customer Service Clerk	299.367-010
	Public Relations Representative	165.067-010
Selling	Salesperson	Term
	Sales Representative	Term
	Coin Machine Collector	292.687-010
	Sales Clerk	290.477-014
	Solicitor	291.357-010
Physical Distribution	Shipping Clerk	222.387-050
	Shipping-and-Receiving Supervisor	222.137-030
	Stockroom Clerk	222.387-058
	Mail Order Sorter	222.387-038
	Cashier	211.362-010
Related Business Services	Various financial, clerical, credit, and insurance services described in Business and Office occupations	

OCCUPATIONAL CLUSTERS

MARKETING AND DISTRIBUTION CLUSTER

Definition of Cluster

Those occupations involved in transferring goods from producers to consumers and influencing consumers in favor of a product or service.

Families of Occupations

Marketing Management--Occupations involved in planning, organizing, staffing, directing, and controlling marketing activities.

Market Research and Analysis--Occupations involved in collecting, tabulating, analyzing, and reporting marketing information.

Purchasing--Occupations concerned with buying merchandise, materials,or equipment for resale or consumption.

Sales Promotion and Training--Occupations concerned with creating a demand for a product or service stimulating sales, and training sales personnel.

Selling--Occupations concerned with contacting and persuading customers to buy products, and arranging and completing sales transactions.

Physical Distribution--Occupations concerned with storing, handling, and transporting goods between producer and consumer.

Related Business Services--Occupations involved in arranging credit, financing, and insurance, and performing clerical duties.

Examples of Occupations

Retail Store Owner
Store Manager
Wholesaler
Warehouse Manager
Market Research Analyst
Buyer or Purchasing Agent
Package Designer
Display Worker (Window Trimmer)
Product Demonstrator
Sales Clerk
Shipping and Receiving Clerk
Advertising Account Executive
Layout Person (Advertising)
Stock Clerk
Merchandise Inspector

OCCUPATIONAL CLUSTERS

ACTIVITY: Conducting an Advertising Campaign

OBJECTIVE: After completing this activity, the student should be able to describe at least one advertising activity or practice.

APPROXIMATE TIME: 55 - 200 minutes

MATERIALS: Handout: Information Sheet; 10 small pieces of paper with the names of products written on them; small box to hold the pieces of paper; drawing paper; rulers; glue or paste; colored pens or pencils; paints and brushes; and other available art supplies

DIRECTIONS: Introduce the activity by briefly describing the work of an advertising agency. Focus on some of the occupations involved in advertising. Divide the students into groups of three. Have one representative from each group draw from a box the name of the product. Each group will be responsible for planning and presenting an advertising campaign for their product. The following product names should be written on small pieces of paper and placed in the box before the activity begins:

cologne	toothpaste
soft drink	breakfast cereal
candy bar	bath soap
shampoo	laundry detergent
dog food	non-prescription medicine

During the remainder of the first class meeting, allow students time to plan and begin working on the advertising campaigns. Distribute copies of the handout for use as guides. Toward the end of class, begin scheduling presentations for the next meeting. Two meetings may be required to allow sufficient time for creative presentations.

After the presentations, discuss the products with the class. For example, ask which products they would now buy and why they would buy them. Consider the influences of such advertising practices as "catchy names,"

product slogans, creative packaging, celebrity endorsement, "sex-appeal," and "children-appeal." Discuss the relationship between information gathered from marketing research and product development through effective advertising.

OCCUPATIONAL CLUSTERS

INFORMATION SHEET

Congratulations!!

You have been hired by a large company to put together an advertising campaign for a new product.

This is what you and the members of your group will do:

1. Name your product. It must be a good, "catchy" name that consumers will remember.

2. Make up a slogan or a jingle for your product. (Hint: pick a tune you already know and put new words with it.)

3. Design the container or package. Draw a good picture of it. Remember it must make consumers who see it want to buy it.

4. Plan and draw a complete ad about your product for a billboard. It must include a picture of the product, perhaps a person using it, and printed words about the product.

5. You will present your campaign to the class when it is finished.

(Spend some time coming up with a great idea!)

OCCUPATIONAL CLUSTERS

ACTIVITY: Conducting a Marketing Survey

OBJECTIVE: After completing this activity, the student should be able to describe the process of marketing research.

APPROXIMATE TIME: 110 - 180 minutes

MATERIALS: Handout: Survey Form; pencil or pen

DIRECTIONS: Before the date of the activity, decide how specific the survey results should be. The basic survey would involve every student in interviewing five or more persons without regard for age, sex, grade level, or other characteristics. A slightly more specific survey method would assign different groups to different students--e.g., one student interviews male adults, one student interviews female student, etc.

Another approach involves students completing items No. 3 and No. 4 for specific product brands. For example, the person being interviewed expresses a "like" for product A. Since the student conducting the interview has been assigned product B surveying, the interview would not continue. On the other hand, this student would ask questions No. 3 and No. 4 if the person selected product B. The Survey Form has been designed to encourage many kinds of information gathering. Note also that No. 3 allows the class to select up to three additional product characteristics for study.

The activity is really quite simple. Students are assigned the task of securing information about product preferences. The teacher decides which products will be reviewed, how much information will be used, and how the results will be presented. If possible, the results should be presented in terms of percentages since this is a common practice in marketing research.

Ask students to interview five or more persons according to the instructions on the Survey Form and the

wishes of the teacher. Give them a few days to complete the surveying. Have the students return the forms and then tabulate the results. Spend one class period presenting the results to the students. During this class meeting, discuss product preferences and the process of marketing research. Focus especially on the issue of whether the results are "true." Ask questions about the accuracy and value of the results--e.g., "Do these results represent the likes of nearly everyone in our city (or school)?"

OCCUPATIONAL CLUSTERS

ACTIVITY: Interviewing a Person in a Marketing and Distribution Occupation

OBJECTIVE: After completing this activity, the student should be able to state the duties, requirements, advantages, and disadvantages of at least one occupation within the marketing and distribution cluster.

APPROXIMATE TIME: 100 - 120 minutes

MATERIALS: Handout: Interview Form (from Appendix Three), pencil or pen, tape recorder and tape (if available)

DIRECTIONS: Ask students to select one occupation of interest from the marketing and distribution cluster. Tell them to contact someone who is presently working in the occupation. Students should interview the persons, using the Interview Form as a guide and a recording sheet. If a tape recorder and tape are available ask one or more students to record their interviews for presentation to the class. All students should be prepared to present brief reports at next class meeting. After the reports, ask if anyone learned anything new or surprising about a marketing and distribution occupation.

OCCUPATIONAL CLUSTERS

SURVEY FORM

Instructions: Ask one person at a time the questions below. Make a mark beside the heading that best describes the person's answers. Remember to write the product names in the blanks provided. When you have talked to at least five people, give your form to the teacher. If a person has already been interviewed for this survey, do not ask them the questions again.

1. The products in this survey are:

   A_____ B_____ C_____ D_____

2. Place a ✓ in the space to show which product you like best?

   A☐ B☐ C☐ D☐

3. Why do you like this product the best?

   Quality☐ Quantity☐ Price☐ Appearance☐

4. Friends/Family like:

   A☐ B☐ C☐ D☐

5. How many of the other product brands have you tried?

   0☐ 1☐ 2☐ 3☐

6. Notes:

   a. Number of people who didn't like any of the products ☐

   b. Number of people who didn't want to answer questions ☐

OCCUPATIONAL CLUSTERS

PERSONAL SERVICES

OCCUPATIONAL CLUSTERS

ACTIVITY: Introducing the Personal Services Cluster

OBJECTIVE: After completing this activity, the student should be able to name at least two families of occupations within the cluster, and give at least two examples of occupations within each family.

APPROXIMATE TIME: 100-150 minutes

MATERIALS: Handout: Personal Services Careers; teacher reference: Personal Services Cluster; various classroom resources: Dictionary of Occupational Titles, Career World, Occupational Outlook Quarterly, magazines, books, and brochures; paper; pencil or pen; series of overlays (from transparency masters in Appendix One)

DIRECTIONS: Introduce the Activity by using the series of overlays (Appendix One) to reinforce the concepts of cluster, family, and occupation. Distribute copies of the handout. Ask students to name two families and five occupations within one of the two families. Write the names on the transparency.

Discuss the characteristics and requirements for some of the familiar occupations. Read a description of one of the occupations from a classroom resource. Give the names of some of the less familiar occupations within the cluster. Ask for volunteers to research the occupations and report on them at the next class meeting. The five to 10-minute reports should focus on the educational and training requirements for the occupations.

At the next meeting, students should present their reports and take questions from the class. If a question cannot be answered by the person who made the presentation, then the teacher should request the person who asked the question to study the issue and report back to the class. After the reports have been completed, discuss the cluster in general. Specifically, discuss the fact that personal services are very important occupations even though they are sometimes viewed as undesirable.

OCCUPATIONAL CLUSTERS

PERSONAL SERVICES CAREERS

Definition: Those occupations involved in providing services for the improvement of persons and their possessions and for the support of persons' general comfort

Family of Occupations	Description of Family
Domestic Services	Occupations involved in providing services to household members and their guests
Lodging and Related Services	Occupations involved in providing general services to persons in hotels and other lodging establishments
Barbering, Cosmetology, and Related Services	Occupations involved in improving the personal appearance of individuals
Drycleaning, Laundry, and Apparel Services	Occupations involved in improving the appearance of clothes and other personal items
Stewards, Attendants, Hosts, and Miscellaneous Personal Services	Occupations involved in greeting, serving, guiding, and otherwise attending to customer needs and wishes
Domestic Animal Care	Occupations involved in the care and training of pets and other domestic animals
Food and Beverage Preparation and Service	Occupations involved in preparing and serving food and drink to customers

Family of Occupations	Examples of Occupations	D.O.T.
Domestic Services	Day Worker	301.687-014
	Housekeeper	301.137-010
	Babysitter	301.677-010
	Butler	309.137-010
	Chauffeur	359.673-010
Lodging and Related Services	Head Housekeeper	187.167-046
	House Parent	359.677-010
	Baggage Porter	324.477-010
	Elevator Operator	388.663-010
	Janitor	382.664-010

OCCUPATIONAL CLUSTERS

PERSONAL SERVICES CAREERS (Continued)

Barbering, Cosmetology and Related Services	Barber Apprentice	330.371-014
	Manicurist	331.674-010
	Cosmetologist	332.271-010
	Embalmer	338.371-014
Drycleaning, Laundry and Apparel Services	Laundry Operator	369.684-014
	Laundry Marker Supervisor	361.137-010
	Drycleaner	362.382-014
	Tailor	785.261-014
	Silk Finisher	363.681-010
Stewards, Attendants, Hosts, and Miscellaneous Personal Services	Chaperon	359.667-010
	Child Care Attendant	355.674-010
	Alpine Guide	353.164-010
	Steward/Stewardess	310.137-018
	Checkroom Attendant	358.677-010
Domestic Animal Care	Horseshoer	418.381-010
	Dog Groomer	418.674-010
	Dog Pound Attendant	410.674-010
	Stable Manager	410.131-010
	Pet Shop Attendant	410.674-010
Food Beverage Preparation and Service	Wine Steward/Stewardess	310.357-010
	Chef	313.131-014
	Pastry Baker	313.381-026
	Bartender	312.474-010
	Banquet Waiter/Waitress	311.477-026

OCCUPATIONAL CLUSTERS

PERSONAL SERVICES CLUSTER

Definition of Cluster

Those occupations involved in providing services for the improvement of persons and their possessions and for the support of persons' general comfort

Families of Occupations

Domestic Services--Occupations in or about the home which render services for members of the household and their guests.

Lodging and Related Services--Occupations involved in providing service to customers or tenants of hotels, boarding houses, and other lodging establishments

Barbering and Cosmetology, and Related Services--Occupations involved in improving the personal appearance of persons

Drycleaning, Laundry, and Apparel Services--Occupations involved in improving the appearance of clothes and other personal items

Steward, Attendants, and Miscellaneous Personal Services--Occupations concerned with greeting, serving, guiding and otherwise attending to customer desires

Domestic Animal Care--Occupations concerned with the training and care of domestic animals

Food and Beverage Preparation and Service--Occupations concerned with the training and care of domestic animals

Examples of Occupations

Maid
Butler
Chauffeur
Elevator Operator
Barber
Cosmetologist
Dog and Cat Groomer
Kennel Attendant
Caterer
Babysitter
Valet
Mortician
Dressmaker
Bartender

OCCUPATIONAL CLUSTERS

ACTIVITY: Unscrambling Occupations

OBJECTIVE: After completing this activity, the student should be able to recognize the titles of five or more personal services occupations.

APPROXIMATE TIME: 30 - 125 minutes

MATERIALS: Handout: Unscramble the Occupations; teacher reference: Unscramble the Occupations Key; pencil

DIRECTIONS: The activity may be completed on an individual or group basis. Distribute copies of the handout. Clarify the directions as needed. Give the answers for some of the items if the group as a whole is experiencing difficulty with the assignment.

OCCUPATIONAL CLUSTERS

UNSCRAMBLE THE OCCUPATIONS

Directions: The following words are the titles of occupations in the personal services cluster. Unscramble the words and write them in the blanks. If you need help, all of the words are included in the list at the bottom of the page.

1. fehc _____
2. berrab _____
3. duige _____
4. taendtnta _____
5. koco _____
6. risticuman _____
7. retrop _____
8. ressper _____
9. oths _____
10. mergroo _____
11. rerteca _____
12. heartt _____
13. oilrat _____
14. wetsard _____
15. sawriste _____

_____

_____

chef	steward	guide
tailor	janitor	barber
housekeeper	manucurist	porter
hatter	electrologist	presser
groomer	escort	host
caterer	bartender	cook
	waitress	attendant

OCCUPATIONAL CLUSTERS

UNSCRAMBLE THE OCCUPATIONS

KEY

1. chef
2. barber
3. guide
4. attendant
5. cook
6. manicurist
7. porter
8. presser
9. host
10. groomer
11. caterer
12. hatter
13. tailor
14. steward
15. waitress

OCCUPATIONAL CLUSTERS

ACTIVITY: Understanding Personal Services Occupations

OBJECTIVE: After completing this activity, the student should be able to state one or more motivations for working in a personal service occupation.

APPROXIMATE TIME: 50 - 80 minutes

MATERIALS: Handout: Statements About Personal Services

DIRECTIONS: Distribute copies of the handout. Divide the class into four groups in order to read and discuss one statement each. For example, one group would consider the statement about drycleaning while another group would look at food service.

Each group would focus upon the personal motivations of the writer of the statement. Group members should discuss whether or not they agree with the position presented by the statement. Group members should realistically discuss the occupations, considering disadvantages in addition to the benefits noted in the statements.

After most of the groups have completed discussion, the class as a whole should talk about the experience. Ask if anyone changed an opinion about one of the personal services occupations.

OCCUPATIONAL CLUSTERS

STATEMENTS ABOUT PERSONAL SERVICES

Introduction

Some persons look down on personal services occupations because they sometimes involve hard work with little pay or recognition. Others rate the occupations low because they may involve close, personal, and domestic work. However, many people respect individuals who perform personal services. They say that these individuals meet important needs in our society. Also, they note the pride that many of the individuals take in their work. Some statements follow that have been made by individuals who like their personal services occupations.

Janitorial Work

I like my job as a janitor. I work in an office building in the evenings when no one else in there. You might say I am my own boss because I work at my own pace. I concentrate on the work that needs to be done according to my standards.

I don't need a supervisor looking over my shoulder because I am proud of my work. When the office gets very messy around tax time, the work can be hard. The way I look at it, these times give me an opportunity to really do my stuff. I know that my work will be recognized when the people come to the office the next day. I believe that a nice, clean office helps people to do their best work. When I make a floor shine, I think that I may be making someone's day brighter and easier.

I wouldn't quit my job as janitor. I make pretty good money and I have a chance to do the things I like. I get plenty of exercise and good feelings about myself. This is my office at night and I wouldn't have it any other way.

Child Care

I am a child care worker, but you could call me a babysitter. I work with a group of neglected and disadvantaged kids at the county home. The hours are long and the stress is great, but I love my job. I enjoy looking after kids who were not cared for or wanted in their own homes. During the average day, I am a counselor, a nurse, a parent, a teacher, and a friend. As a houseparent, I often stay overnight. While I'm not too happy about this, I care enough about the children to want to be there. It sounds sort of corny, but I like to know that they are safe and comfortable. It's sad when the kids leave the home. On the other hand, I'm always optimistic that they are going on to better things. I know that part of my liking the occupation is based on responsibility. The lives of the children are placed in my hands. It feels great to have even a small influence on a growing person's life. Their trust and concern makes my life richer as well.

OCCUPATIONAL CLUSTERS

STATEMENTS ABOUT PERSONAL SERVICES (Continued)

Drycleaning

Drycleaning is like a lot of jobs rolled into one. I'm glad that I work in a small shop because I've had a chance to learn nearly every job in the business. When I'm up-front checking in clothes and taking money, I try to be a good representative for the business. If you're friendly to people, then they will be nice to you. I like to meet lots of different people. I also like working for an operation in which we can take pride.

I'm a good cleaner and presser and I'm becoming a good spotter. Spotting is a little like chemistry. We mix our own solvents and solutions. I can get just about any stain out of any fabric. In fact, some cleaners send items over for me to work on before they give up hope. Most of the time I can get the stain out and save someone some money. When they send me work that tells me that I'm doing a good job. I like to be respected for my work. Someday I hope to own a little business, but now I'm glad that I have a place to learn all the "tricks of the trade."

Food Service

I wait on tables at a local restaurant. It's a "theme restaurant" where we dress up in costumes and act a role. I'm not an actor, but I enjoy being a little silly and making the customers smile. I always remember the rules of good personal service. Most of our money comes from tips. If a person is cheerful and efficient, then there is a big potential for earning. Many nights, I've made $50.00 in tips.

I also like this occupation because of the people with whom I work. They are a great, fun-loving group. We have one another over for dinner and parties and just generally enjoy being together. I guess we feel that way because we work as a team. I try to do my job as well as I can since I know that my work affects my friends' work. Sometimes we have "races" to see who can make the most or carry the most, but we are not really competitive. I like food service because the money is great and I can belong to a warm, hard-working "family."

After all of the experiences have been completed, each student should briefly report to the group. Ask that the students focus on two areas in making the presentations. The duties and responsibilities of the various occupations should be noted. Some of these should be written on the chalkboard in list form. Also, the students should discuss the "human side" of the occupations or jobs. Unusual, touching, and humorous events should be considered.

OCCUPATIONAL CLUSTERS

ACTIVITY: Observing Personal Services Occupations

OBJECTIVE: After completing this activity, the student should be able to list three duties and responsibilities for at least two personal services occupations.

APPROXIMATE TIME: 120 - 180 minutes

MATERIALS: Paper, pencil or pen, newspapers, and magazines

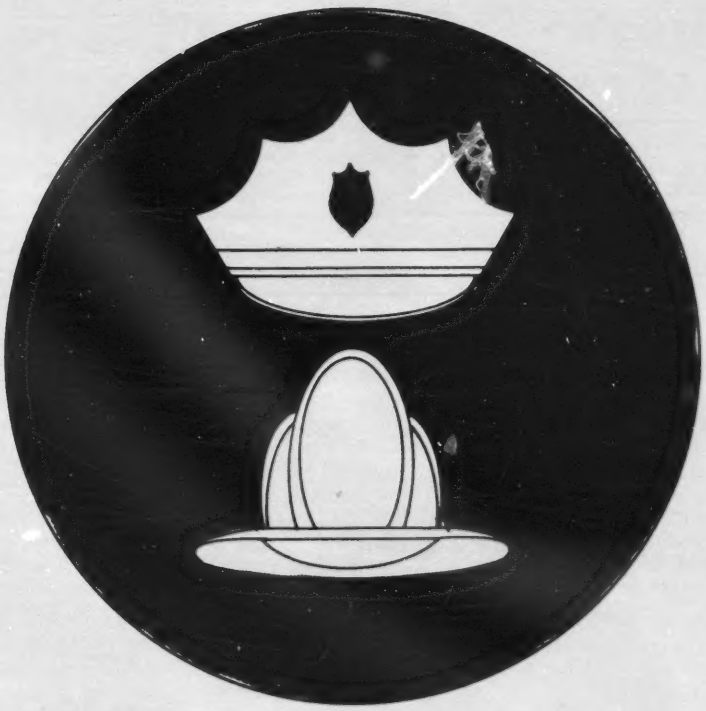
DIRECTIONS: In this activity, students have the choice of learning about personal services in one of three ways. Ideally, students will be able to arrange a half-day volunteer work experience. Although the teacher may direct students to businesses that would be receptive to having a volunteer, the student should assume the responsibility for finding a suitable placement. Naturally, the students should have permission of their parents. Possible volunteer experiences include working in a restaurant, a day care center, a drycleaners, a janitorial company, a hotel, a pet store, a kennel. Very rewarding experiences may be found in humane societies, senior citizens' centers, and the homes of invalids and young children.

Students who are not interested in volunteer experiences may wish to observe persons engaged in personal services occupations. A variety of small businesses, including barber and beauty shops, would be excellent sites for observation. Finally, students may choose to complete a written report about an occupation in the cluster. The report should be approximately three pages in length and should be based on recent newspaper and magazine articles.

Before beginning any of the three experiences, students should express commitment to the activity by submitting a brief statement of plans to the teacher. The statement should be a paragraph in which the location and date of activity are specified. Students should be given ample opportunity to arrange for volunteer and observation sites. Students may work on the written reports in or outside of class.

OCCUPATIONAL CLUSTERS

PUBLIC SERVICES



OCCUPATIONAL CLUSTERS

ACTIVITY: Introducing the Public Services Cluster

OBJECTIVE: After completing this activity, the student should be able to name at least two families of occupations within the cluster and give at least two examples of occupations within each family.

APPROXIMATE TIME: 100 - 150 minutes

MATERIALS: Handout: Public Services Careers; teacher reference: Public Service Cluster; various classroom resources (e.g., Dictionary of Occupational Titles, Occupational Outlook Handbook, Career World, magazines, books, and pamphlets); paper; pen or pencil; series of overlays (from transparency master in Appendix One)

DIRECTIONS: Introduce the activity through the use of the series of overlays (Appendix One). This reinforces the concepts of cluster, family, and occupation. Distribute copies of the handout. Ask students to name two families and five occupations within one of the two families. Write the names on the transparency.

Discuss the characteristics and requirements of some of the familiar occupations within the cluster. Read descriptions of several of the occupations from classroom resources. Ask students to investigate occupations of their choice. They may wish to use the Occupational Research form (Appendix Two) to guide their studies. Request some students to present 5-10 minute reports at the next class meeting. The reports should focus on the educational and training requirements for the occupations. However, they should also discuss the "human side" of the occupations or any aspects that make the work touching, humorous, or unusual. After the reports have been completed, discuss the cluster in general. Note how it is similar to and different from other clusters.

OCCUPATIONAL CLUSTERS

PUBLIC SERVICES CAREERS

Definition: Those occupations involved in providing services to citizens through tax-supported and non-profit organizations.

Family of Occupations	Description of Family
Administration and Regulatory Services	Occupations involved in licensing, regulation, policy, and record-keeping
Urban Development	Occupations involved in studying and solving the problems of cities
Education	Occupations involved in the training and education of members of society
Protective Services	Occupations involved in preserving national freedom and protecting individual rights
Post Office	Occupations involved in transporting and delivering the mail
Public Utilities	Occupations involved in the production and distribution of water, electricity and gas
Public Health	Occupations involved in disease control and prevention, usually through public facilities
Labor Affairs	Occupations involved in providing services to labor
Public Transportation	Occupations involved in developing and regulating public highways, bridges, waterways, and other means of transportation
Social Services, Rehabilitation, Correction	Occupations involved in providing services to citizens, usually in the areas of welfare, human development, mental health, and rehabilitation
Parks and Recreation	Occupations involved in developing and regulating public recreational areas

OCCUPATIONAL CLUSTERS

PUBLIC SERVICES CAREERS (Continued)

Family Of Occupations	Examples of Occupations	D.O.T.
Administration and Regulatory Services	City Auditor	160.167-030
	City Manager	188.117-114
	Bank President	186.117-054
	Bank Cashier	186.117-070
	Bank Examiner	160.162-014
Urban Development	Urban Planner	199.167-014
	Urban Sociologist	054.067-014
	Economic Development Coordinator	188.117-102
	Economist	050.067-010
	Geographer	029.067-010
Education	Elementary School Teacher	092.227-010
	Professor	090.227-010
	School Counselor	045.107-010
	Library Technician	100.367-018
	Media Specialist	100.167-030
Protective Services	Police Officer	375.263-014
	Intelligence Specialist	059.267-010
	Fire Fighter	373.364-010
	Combat Rifle Crew-member	378.684-014
	In-flight Refueling Operator	912.662-010
Post Office	Postal Clerk	243.367-014
	Postal Inspector	168.267-062
	Postmaster	188.167-066
	Post Office Supervisor	243.137-010
	Mail Carrier	230.367-010
Public Utilities	Water Treatment Plant Operator	954.382-014
	Water Quality-Control Engineer	019.081-018
	Turbine Operator	952.362-042
	Gas-Pumping-Station Supervisor	953.137-010
	Meter Reader	209.567-010
Public Health	County Health Officer	070.101-046
	Field Health Officer	168.167-018
	Public Health Nurse	075.124-014
	Public Health Registrar	169.167-046
	Public Health Educator	079.117-014

OCCUPATIONAL CLUSTERS

PUBLIC SERVICES CAREERS (Continued)

Family of Occupations	Examples of Occupations	D.O.T.
Labor Affairs	Employment Counselor	045.107-010
	Safety Engineer	168.167-038
	Safety Inspector	168.264-014
	Labor Relations Consultant	166.167-034
	Labor Union Business Representative	187.167-018
Public Transportation	See Transportation Cluster	
Social Services, Rehabilitation, Correction	Social Group Worker	195.107-022
	Delinquency Prevention Social Worker	195.107-026
	Vocational Rehabilitation Counselor	045.107-042
	Lawyer	110.107-010
	Probation Officer	195.167-034
Parks and Recreation	See Agri-Business and Natural Resources, and Hospitality and Recreation Clusters	

OCCUPATIONAL CLUSTERS

PUBLIC SERVICES CLUSTER

Definition of Cluster

Those occupations involved in providing services to people through organizations established by society, normally on a non-profit basis, usually supported by tax revenues.

Families of Occupations

Administration and Regulatory Services--Occupations concerned with public records, licensing, regulatory services and facilities in government agencies

Urban Development--Occupations involving professional, technical, and managerial personnel concerned with educating and training members of society.

Protective Services--Occupations concerned with protecting the nation (military and civil defense) and protecting individuals (law enforcement).

Post Office--Occupations which are part of the U.S. Postal Service, and independent agency of government service.

Public Utilities--Occupations involved in the production, distribution, and servicing of public utilities.

Public Health--Occupations involved in disease control and prevention, usually through public facilities

Labor Affairs--Occupations concerned with the supply of labor for business and industry and protection of the worker's interests.

Public Transportation--See transportation careers

Social Service, Rehabilitation, Correction--Occupations concerned with programs of human services in the areas of health, welfare, recreation, and rehabilitation

Parks and Recreation--See hospitality and recreation careers

Examples of Occupations

City Manager
Urban Planner
Economist
Kindergarten and Elementary School Teacher
Secondary School Teacher
Librarian
F.B.I. Agent
Police Officer
Fire Fighter
Postmaster
Mail Carrier
Neighborhood Youth Corps Director
Meter Reader
Probation Officer
Social Worker

OCCUPATIONAL CLUSTERS

ACTIVITY: Identifying Public Services Occupations

OBJECTIVE: After completing this activity, the student should be able to identify the responsibilities of one or more public services occupations.

APPROXIMATE TIME: 20 - 50 minutes

MATERIALS: Handout: Public Services Occupations; pencil or pen; various classroom resources (e.g., Dictionary of Occupational Titles); teacher reference: Answer Key

DIRECTIONS: Distribute copies of the handout. Read the instructions to the students. Tell them to use classroom resources if they have difficulty completing the form. Check on student progress and help individuals, as necessary.

OCCUPATIONAL CLUSTERS

PUBLIC SERVICES OCCUPATIONS

Instructions: From the list below, choose the correct occupations and write them in the blanks.

Zoo Director	County Health Worker	Line Installer
Electric Company Worker	Postal Worker	Police Officer
Dog Catcher	Meter Reader	City Bus Driver
Librarian	Sanitation Worker	Legislator
Water Company Worker	Fire Fighter	

1. Your class is studying reptiles and you would like to take a field trip to see different kinds of snakes. Whom could you call to ask about the field trip? _____

2. You are getting ready to go on a vacation, and you want a good book to read while you are gone. You are at the City Library and need help in finding a book. Whom would you ask to help you? _____

3. You want to go downtown to shop. You don't know anyone with a car, and you don't want to call a taxi. Who else could help you get to town? _____

4. There are a lot of people sick with the measles, so the County Health Department wants to set up a clinic and give measles' shots to avoid an epidemic. Who would be in charge of the clinic? _____

5. You are having problems with your gas meter. It is not working correctly, and you are being charged too much on your gas bill. Whom could you get to look into this problem? _____
_____

6. There was a storm in the night and the telephone line blew down. The phones are not working, and you want to get them fixed. Who could fix the phones? _____

7. You want to mail a letter, but you don't know the right ZIP code to put on the letter. You need to call someone to find out about ZIP codes. Whom would you call? _____

8. Your dog has gotten out of the yard through a hole in the fence. You have checked with the neighbors and they saw a man catch and load your dog into a truck. Whom would you call? _____
_____

OCCUPATIONAL CLUSTERS

PUBLIC SERVICES OCCUPATIONS (Continued)

9. The garbage cans behind your house are full and running over because no one has been around to empty them for a month. You need to call someone to come and pick up the trash. Whom would you call?_____

10. Water keeps running down the street by your house because there is a leak in the water line. You want to get the leak fixed. Whom would you call?_____

11. Two cars are involved in a wreck in front of your house. No one is hurt, but the cars are damaged and cannot be moved. You need someone to investigate and report the accident. Whom would you call?_____

12. There is a bill in the state legislature about which you would like some information. You want to talk to someone who can send you this information. Whom would you call or write?_____
_____

13. The lights in your house have gone off and you see they are off all over the neighborhood. Whom would you call?_____
_____

14. You are walking home from school and you see smoke and flames coming out of an old building. Whom would you call?_____
_____

OCCUPATIONAL CLUSTERS

ACTIVITY: Guessing Public Services Occupations

OBJECTIVE: After completing this activity, the student should be able to select three or more public services occupations.

APPROXIMATE TIME: 55 - 90 minutes

MATERIALS: Teacher reference: What's My Occupation?; various classroom resources: Dictionary of Occupational Titles, Occupational Outlook Quarterly, Career World, books, pamphlets and related materials; paper; pencil or pen; small box; 18 slips of paper

DIRECTIONS: Before the date of the activity, write the titles of the 18 occupations listed on the teacher reference on the slips of paper. These should be placed in a box so that students can draw for occupations about which they will be questioned.

Up to one-half of the contestants will draw the name of an occupation, use classroom resources to study it, and prepare to portray contestants in "What's My Occupation?"--a game similar to "What's My Line?" The remainder of the class will take turns being panelists in the game. While the contestants research occupations, the panelists should arrange chairs and desks so that the room resembles a TV game show set. The object of the game is to guess the occupation of the contestant. Panelists can ask the contestants any question that may be answered "Yes" or "No". The contestants must answer honestly, but they also try to "stump" the panelists by responding to questions in their most general sense. The teacher is the moderator and rules whether or not a question or an answer are improper.

There may be as many rounds of the activity as there are contestants. For each contestant, four panelists are chosen to ask questions. They may continue questioning until they have received eight "No" answers. Each time a panelists guesses incorrectly--or gets a "No" answer--questioning is turned over to the next panelist. At the end of the rounds, it might be

interesting to compare the number of times the contestant "stumped" the panel with the number of times the panelists correctly guessed the occupation.

OCCUPATIONAL CLUSTERS

WHAT'S MY OCCUPATION?

lawyer 110.107-010

child welfare caseworker 195.107-014

police officer 375.263-014

fire fighter 373.364-010

kindergarten teacher 092.227-014

counselor 045.107-010

mail carrier 230.367-010

deputy sheriff 377.263-010

school psychologist 045.107-034

geographer 029.067-010

economist 050.067-010

meter reader 209.567-010

postal clerk 243.367-014

county health officer 070.101-046

safety inspector 168.264-014

school librarian 100.167-030

tank crewmember 378.683-018

bank president 186.117-094

OCCUPATIONAL CLUSTERS

ACTIVITY: Simulating a Juvenile Court Hearing

OBJECTIVE: After completing this activity, the student should be able to list at least three occupations in the public services cluster.

APPROXIMATE TIME: 150 - 200 minutes

MATERIALS: Handout: Juvenile Court-Occupations; paper; pencil or pen; various classroom resources: Dictionary of Occupational Titles, Occupational Outlook Handbook, pamphlets or brochures (from relevant agencies), books, and newspapers; props, costumes, and related items as available

DIRECTIONS: Tell students that they will be responsible for developing a play or scene about a juvenile court hearing. Everyone in the class will have a role or a duty. Some of the roles require participation during the entire play or simulation. For example, the juvenile court judge will be "on-stage" the entire time. Also, the runaway and the parents of the runaway participate during the whole activity. Other roles require only a short "testimony," either about the runaway's activities or about conditions in general. For example, one witness should be the police officer who picked-up the runaway. The play may also include the statements of such experts as the delinquency prevention social worker who would talk about programs in the community for juveniles. This witness may recommend to the judge that the runaway be sent to a special group home rather than the detention center.

The actual plans for the play will be made by the "drama teacher" (a student selected to direct the play) and the classroom teacher. They will assign roles, write a script or plan of action, recruit assistants to make the classroom look like a courtroom, and generally manage the entire activity. Ideally, the play will simulate or be like real-life juvenile hearings. The "drama teacher" will need to research the area carefully and perhaps even interview a judge or probation officer.

The play can be conducted from a script. However, the activity is designed to encourage students to individually study the occupations of their roles and then just ad lib or act the role based on their understanding of the occupations. The "drama teacher" (director) and the production crew must work closely with the role-players or actors so that they will know when to enter the scene, what they are generally expected to do, when to exit, and so on.

During the first class meeting, the teacher should select a "drama teacher" who will then ask for volunteers or assign roles. The teacher will describe the responsibilities of the students to plan, develop, and create a juvenile court hearing simulation. Students will receive copies of the handout and begin to research their roles. The "drama teacher" and the production team will meet as a group to plan the sequencing, structure, and nature of the play. The teacher acts as a resource person to the production group and the "actors." The students should be told to record their plans and any necessary information on paper.

During the second class meeting, the play or simulation will be "rehearsed." The production group should have an outline of the play or scene. They will have decided about the situation which brought the runaway to court. For example, the "drama teacher" might tell the class why and when the runaway left home, how the parents reacted, what the runaway did before being picked up by the police officer, what various witnesses saw and did, and so forth. In effect, this discussion gives the role-players direction for portraying their occupations in the play. Some witnesses will be "for" the runaway while others will be "against" the student. The action of the play will then be described. For example, the "drama teacher" tells the "child psychologist" to testify after the "truant officer." Also, the "judge" and especially the "bailiff" (who will call the actors to testify) will be instructed about the sequence of activities. Every person should receive an outline of the action from the production team. Then, the "drama teacher" directs the students in "walking-through" or rehearsing the play.

The play or simulation is conducted dur[illegible] the third class meeting. Other students may be [illegible]mitted to watch. At the end of the simulation, the "judge" weighs the evidence and decides whether to send the runaway to the county detention center, to the parents' home, or to some other location. After the play is finished, briefly discuss the experience focusing upon the various occupations involved.

OCCUPATIONAL CLUSTERS

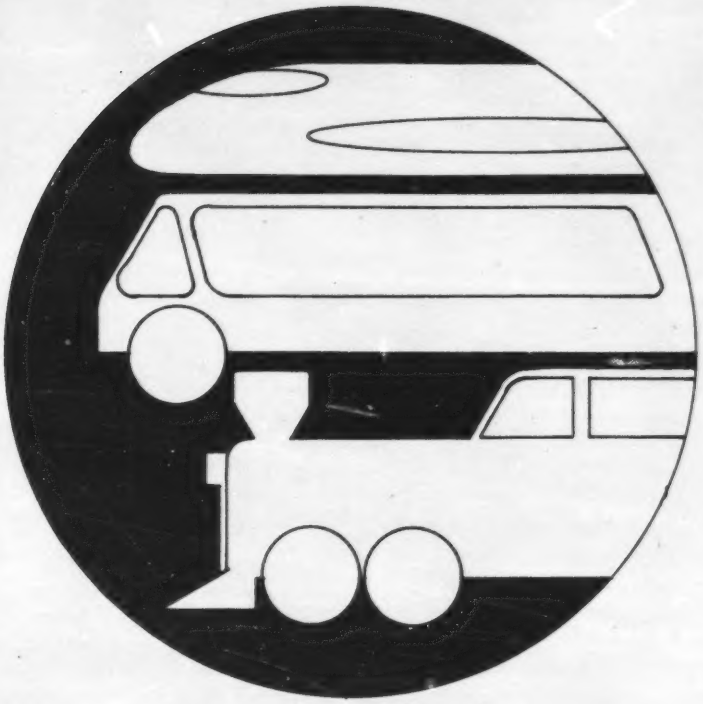
JUVENILE COURT-OCCUPATIONS

The following occupations may be roles in the "juvenile court hearing" play you are planning. The number to the right of the occupation may be used to look up a description in the Dictionary of Occupational Titles.

Occupation	D.O.T.	Notes
Juvenile Court Judge	111.107-010	
Bailiff	377.667-010	
Juvenile Probation Officer	195.167-034	actually involved in the "court hearing"
Police Officer-Guard	375.367-010	
Lawyer	110.107-010	
Elementary School Teacher	092.227-010	
School Social Worker	195.107-038	
Family Caseworker	195.107-018	expert and personal witnesses during the "court hearing"; any or all of the occupations may be used
Delinquency Prevention Social Worker	195.107-026	
Police Officer	375.263-014	
Child Psychologist	045.061-010	
Truant Officer	168.367-010	
Witnesses Runaway Parents		actually involved in court hearing
Drama Teacher	150.027-014	produces and directs the play
Drama Assistants (Script Writer, Prop Handler, etc.)		

OCCUPATIONAL CLUSTERS

TRANSPORTATION



OCCUPATIONAL CLUSTERS

ACTIVITY: Introducing the Transportation Cluster

OBJECTIVE: After completing this activity, the student should be able to name at least two families of occupations within the cluster, and give at least two examples of occupations within each family.

APPROXIMATE TIME: 100-120 minutes

MATERIALS: Handouts: Transportation Careers, Occupational Research (Appendix Two); teacher reference: Transportation Cluster; various classroom resources including Dictionary of Occupational Titles, Occupational Outlook Quarterly, magazines, books, and pamphlets; pencil or pen; series of overlays (from transparency masters in Appendix One)

DIRECTIONS: Use the series of overlays to introduce or reinforce the concepts of cluster, family, and occupation. Distribute copies of the handouts. Ask students to read the names of two families and five occupations within one of the two families. Write the names on the transparency.

Distribute the characteristics and requirements for some of the familiar occupations in the cluster. Also, read a description of one of the occupations from a classroom resource. Tell the students the names of some of the less familiar occupations. Ask for volunteers to investigate the occupations and report on them at the next class meeting. Students should use the Occupational Research form (Appendix two) as a guide for preparing brief reports. The reports should be approximately five minutes in length and should focus on the educational and training requirements for the various occupations.

OCCUPATIONAL CLUSTERS

TRANSPORTATION CAREERS

Definition: Those occupations involved in moving people and goods from one place to another

Family of Occupations	Description of Family
Highway Transport	Occupations involved in moving people and things by bus, truck, or taxi
Rail Transport	Occupations involved in transporting freight and people via the railroads
Airborne Transport	Occupations involved in flying people and freight to destinations
Pipeline Transport	Occupations involved in transporting solids and liquids by pipe
Water Transport	Occupations involved in moving people and goods over the oceans and inland waterways

Family of Occupations	Examples of Occupations	D.O.T.
Highway Transport	Flatbed Truck Driver	905.663-014
	Trucker Helper	905.687-010
	Taxi Driver	913.463-018
	Parking Lot Attendant	915.473-010
	Dispatcher	913.367-010
Rail Transport	Locomotive Operator Helper	910.367-022
	Locomotive Engineer	910.363-018
	Railroad Maintenance Clerk	221.362-026
	Yard Manager	184.167-278
	Switch Tender	910.667-026
Airborne Transport	Pilot	196.263-014
	Navigator	196.167-014
	Air Traffic Control Specialist	193.162-018
	Airplane Inspector	621.261-010
	Airplane Mechanic	621.281-014

OCCUPATIONAL CLUSTERS

TRANSPORTATION CAREERS (Continued)

Pipeline Transport	Coal Pipeline Operator	914.362.010
	Chief Gager	914.134-010
	Gas Dispatcher	953.167-010
	Main Line Station Engineer	914.363-018
	Pump Station Operator	914.362-018
Water Transport	Ship's Captain	197.167-010
	Ship Runner	222.567-014
	Purser	197.167-014
	Lock and Dam Equipment Repairer	899.281-010
	Supercargo	248.167-010

OCCUPATIONAL CLUSTERS

TRANSPORTATION CLUSTER

Definition of Cluster

Those occupations involved in the movement of people and goods from one place to another

Families of Occupations

Highway--Occupations involved in bus, truck, and taxi transportation

Rail--Occupations concerned with the railroad, streetcar, subway, and rail-rapid transit systems of transportation

Airborne--Occupations concerned with airline passenger and freight service and with terminal operation and management

Pipeline--Occupations concerned with transporting solids and fluids through pipelines

Water--Occupations involved in both ocean and inland water transportation

Examples of Occupations

Truck Driver
Airline Ticket Agent
Bus Driver
Diesel Mechanic
Locomotive Engineer
Navigator (ship)
Airline Pilot
Turntable Operator (railroad)
Railway Express Agent
Flight Engineer
Coal Pipeline Operator
Deck Officer
Tugboat Dispatcher
Baggage Agent
Freight Inspector
Supercargo

OCCUPATIONAL CLUSTERS

ACTIVITY: Learning About the Occupation of Taxi Driver

OBJECTIVE: After completing this activity, the student should be able to correctly locate streets and chart directions on a map.

APPROXIMATE TIME: 30 - 60 minutes

MATERIALS: Teacher reference: Taxi Driver's Dilemma; copies of city maps; pencil or pen; student handouts (prepared by teacher)

DIRECTIONS: Introduce the activity by explaining the importance of map-reading to taxi drivers and other transportation personnel. Stress that taxi drivers must be able to quickly move people from one location to another.

Distribute copies of the city maps. Explain how to use the street index and read the maps. Give several examples of street names and ask students to locate them. Point out to the students how to determine direction (e.g., north) on the map.

Distribute copies of the student handouts. The handouts must be prepared in advance by the teacher based on specific city information. Use the teacher reference sheet as a guide. Review the instructions with the students. Tell them to locate the "From" address and then the "To" address. Ask them to write solutions for the "taxi driver's dilemma" on the sheet. Provide the following example of a description if needed.

> Go to Elm Street and turn left. Go north on Elm to 4th Street and turn right. Go east on 4th Street ten blocks to Palm Avenue. Turn left and go three blocks to 2440 Palm Avenue.

OCCUPATIONAL CLUSTERS

TAXI DRIVER'S DILEMMA:
TEACHER REFERENCE

Instructions: Use the city map to locate the addresses listed below. Describe in writing the best way to travel between the locations.

1. From 1805 Park Blvd. To 2700 Exposition Blvd.

2. From 1178 Rio Grande St. To 417 West 18th Street

3. From 705 East 9th St. To 1212 Red River Street

NOTE: Prepare the activity sheet by using a city map and selecting ten different sets of addresses. Begin with simple locations and routes and progress to the more difficult.

OCCUPATIONAL CLUSTERS

ACTIVITY: Imagining Transportation of the Future

OBJECTIVE: After completing this activity, the student should be able to write a description of a future transportation problem or need and its solution.

APPROXIMATE TIME: 80 - 120 minutes

MATERIALS: Paper, pencil or pen, drawing paper, felt-tip markers, paints, magazines (for cutting out pictures), scissors, glue

DIRECTIONS: Tell the students that transportation will be one of the major career areas in the future. Discuss possible transportation needs of the future. For example, consider those needs related to space travel for exploration and settlement. Point out immediate needs for new and better transportation systems in metropolitan areas. The teacher may also wish to discuss transportation with respect to leisure and freight distribution.

Make the following individual assignment. Ask students to imagine a transportation need of the future. The need may be very realistic or more "science-fiction" in nature. Tell them to determine a solution for the problem or a means for satisfying the need. They should prepare to present their solutions to the class. They may use the written medium--for example, writing a story or a plan. Students may also draw or construct models to explain their solutions. The various art materials may be used during class and at home. Examples of visual presentations include: drawing a futuristic ("Star-Wars") space vehicle, designing a trans-national coal slurry, or preparing a collage of a new land-water (amphibian) car. Artistic and mechanical skills may be used by creative students.

Allow sufficient time for the presentations at the next class meeting. After the presentations, discuss new or different occupations that may be created by the various solutions.

OCCUPATIONAL CLUSTERS

ACTIVITY: Identifying Transportation Terms

OBJECTIVE: After completing this activity, the student should be able to list at least five words or terms related to transportation occupations.

APPROXIMATE TIME: 50 - 60 minutes

MATERIALS: Handout: Transportation Acrostic; pen or pencil; transparency (from transparency master)

DIRECTIONS: Distribute copies of the handout. Ask students to write as many terms as they can. Clarify instructions and answer questions. Give the students words from the Sample if they have difficulty. Call the first person who finishes the "winner"

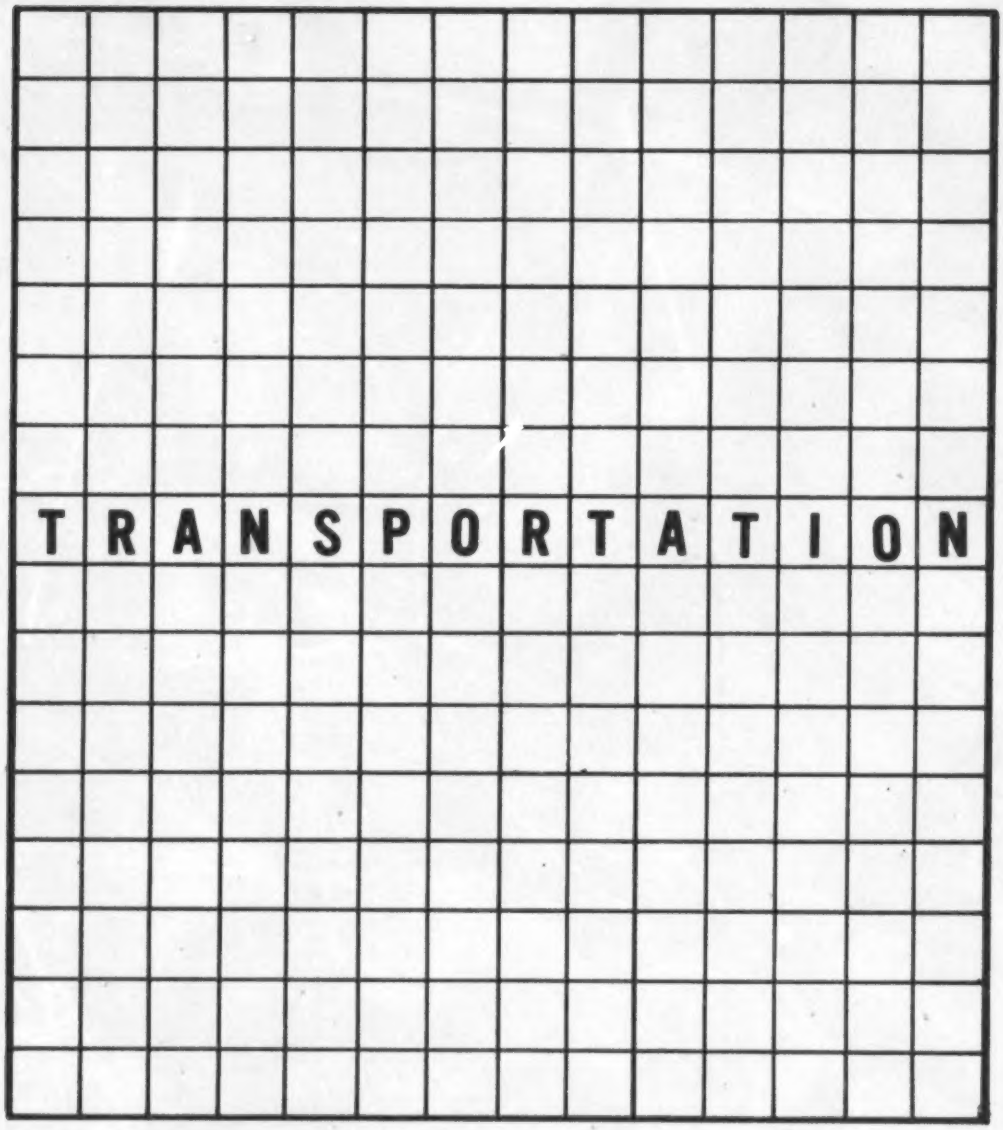
Write the following forms of transportation on the blackboard if students have difficulty imagining terms.

canoe	wagon	buggy
automobile	glider	walk
boat	balloon	convoy
horse	helicopter	motorcycle
rocket	car	camel
skates	water	spaceship
submarine	subway	tank
yacht	chariot	locomotive
jet	tractor	blimp
train	streetcar	run
airplane		

FIFTEEN CLUSTERS

TRANSPORTATION ACROSTIC

Instructions: Write as many words as you can think of that are related to transportation careers. Use each word only once. The words must cross at least one other word.



OCCUPATIONAL CLUSTERS

TRANSPORTATION ACROSTIC

Instructions: Write as many words as you can think that are related to transportation careers. Use each word only once. The words must cross at least one other word.

EXAMPLE

P	U	R	S	E	R								C
		A						S					A
	A	I	R	P	L	A	N	E					P
		L						A			T		T
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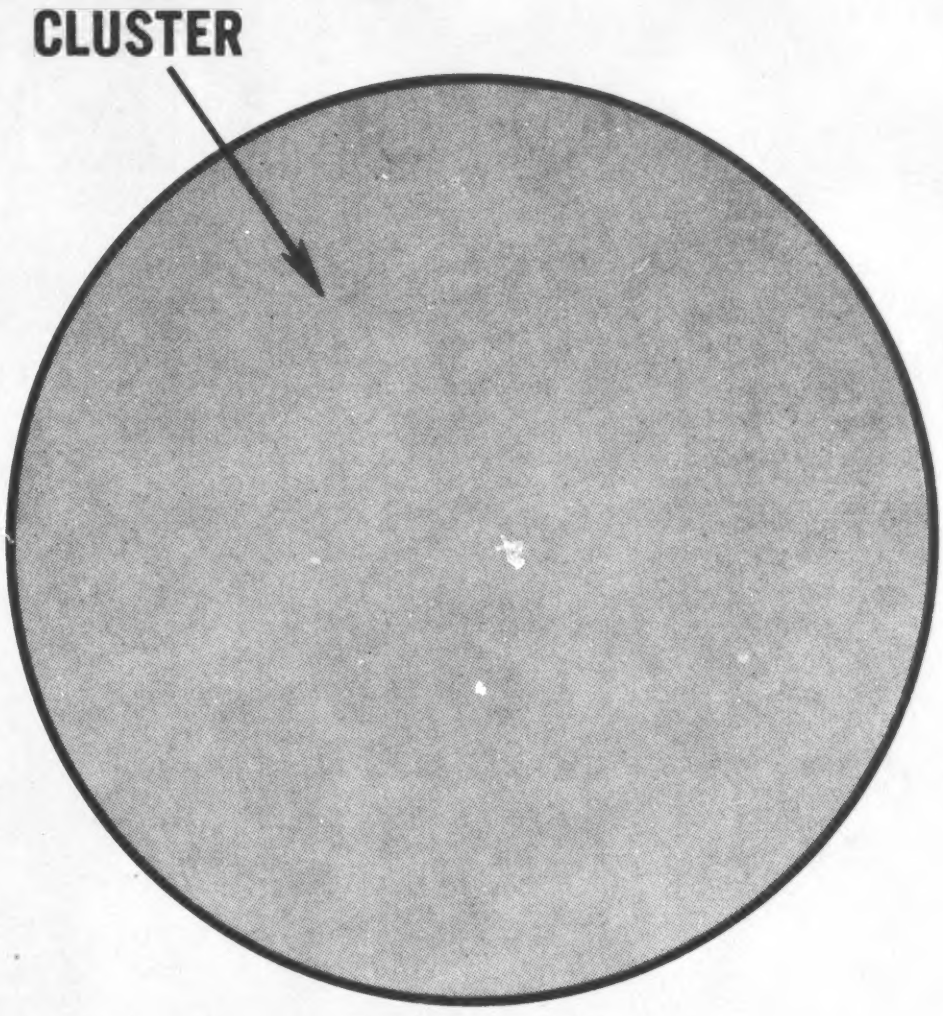
APPENDIX ONE

OCCUPATIONAL CLUSTERS



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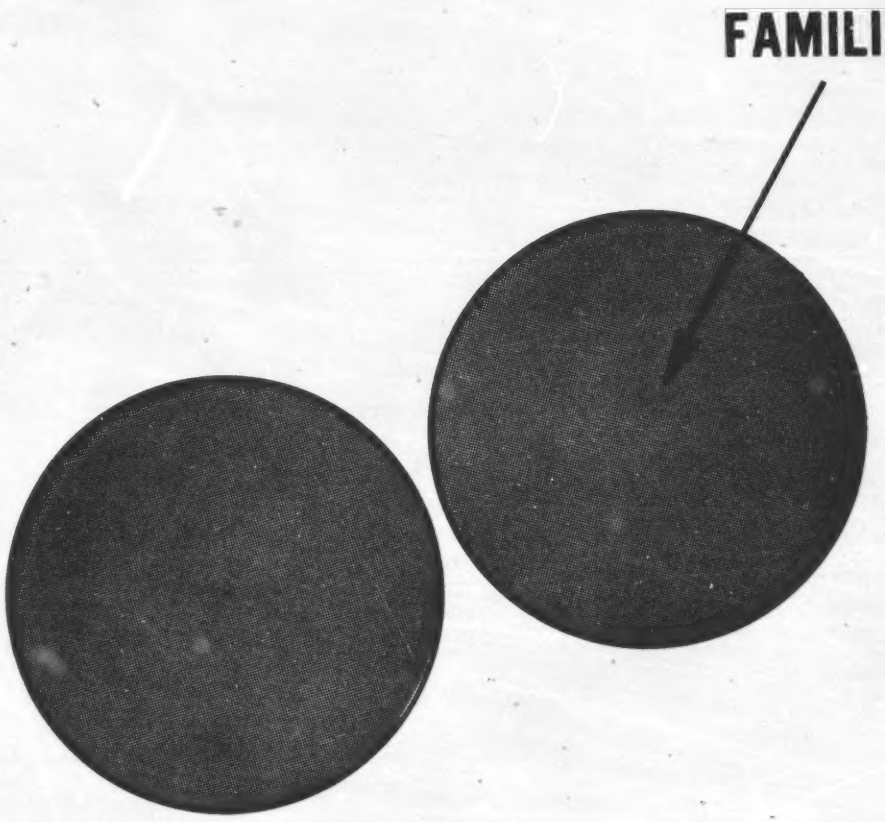

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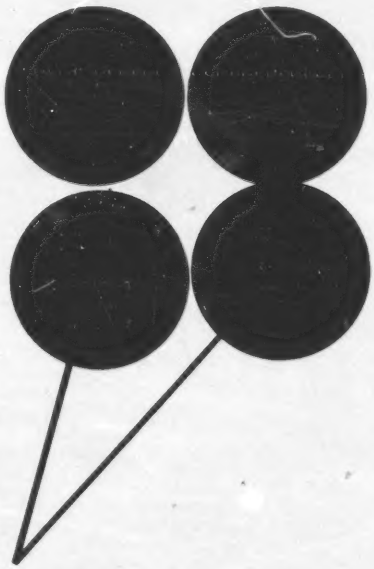

OCCUPATIONS

C

APPENDIX TWO

OCCUPATIONAL CLUSTERS

OCCUPATIONAL RESEARCH

Name of Occupation _____

Occupational Cluster _____

I. Description of Usual Duties Performed. (List a minimum of five duties.)

A. _____ E. _____

B. _____ F. _____

C. _____ G. _____

D. _____ H. _____

II. Qualifications Needed for the Job

A. What skills do you need?

1. _____

2. _____

B. What courses in high school would help to prepare you for this job?

_____ _____

_____ _____

_____ _____

_____ _____

C. Where can you get the training needed for this job?

1. _____

2. _____

3. _____

III. Personality Traits, Interests, Aptitudes, etc., Needed for the Job

A. _____ E. _____

B. _____ F. _____

C. _____ G. _____

D. _____ H. _____

OCCUPATIONAL CLUSTERS

OCCUPATIONAL RESEARCH (Continued)

IV. Employment Opportunities

A. Are additional workers needed now in this occupation? Yes or No

B. Will still more workers be needed in the future? Yes or No

C. Is it considered a bright future, status quo, or dead end job? (Underline which)

V. Advancement Opportunities

A. Are there opportunities for promotion? Yes or No

B. What appear to be the steps for promotion?

1. _____

2. _____

3. _____

4. _____

C. Must one get additional training to qualify for promotion? Yes or No

1. Formal Yes or No
2. Informal Yes or No
3. Apprentice Training Yes or No

D. Are there related occupations to which this job may lead either with or without more training? Yes or No

What are some of these? _____ _____

_____ _____

VI. Earnings

A. Beginning wage (Underline per hour, per day, or per week.) $_____

B. Wage earned by most of the workers $_____

C. Highest wage $_____

D. Is there usually a vacation with pay? Yes or No

E. (Other benefits) _____

VII. Hour of Work

A. How many hours on the average would one work in this job? 1. Daily _____ 2. Weekly _____

B. Is there additional pay for overtime work? Yes or No

C. Are there seasonal lay offs? Yes or No

OCCUPATIONAL CLUSTERS

OCCUPATIONAL RESEARCH (Continued)

VIII. Health and Safety

A. Are there health dangers involved? Yes or No

If so, what kinds? _____

B. Is there a high accident rate on this job? Yes or No

C. What safety precautions must be taken?

1. Wear protective clothing? Yes or No
2. Check guards on the machines and equipment? Yes or No
3. Obey safety rules of the firm? Yes or No

IX. Employee Organizations of a Full-Time Worker

A. Would you be expected to join a union? Yes or No

B. Would you be expected to join an employee organization other than a union? Yes or No

X. Service to the community (How do workers in this job serve the community?)

A. _____

B. _____

C. _____

D. _____

E. _____

XI. Firms in Our Town or Within Commuting Distances Where This Type of Job Would be Available (List a minimum of three.)

A. _____ D. _____

B. _____ E. _____

C. _____ F. _____

XII. Sources of Information Used to Make This Study (List a minimum of three.)

A. _____

B. _____

C. _____

D. _____

XIII. What Do You Think of This Job?

Appealing _____ Disappointing _____ No Interest _____

Why? _____

_____

_____

APPENDIX THREE

OCCUPATIONAL CLUSTERS

INTERVIEW FORM

Name _____ Date _____

1. What is your occupation? _____
2. What company do you work for? _____
3. What are your specific duties? _____

_____

4. What are your work hours? _____
5. Does your company employ dropouts? _____ High School Graduates? _____ College Graduates? _____
6. Are there any physical requirements for the job? _____

_____

7. Were there any subjects in high school that prepared you for this job? _____

_____

8. What were your reasons for selecting your occupation? _____

_____

_____

9. Do you have to take an examination for this job? _____
10. What are the physical demands, working conditions, and hazards?

_____

11. What are your opportunities for advancement? _____

_____

12. What is the minimum age limit? _____
13. Do you have to belong to a union? _____
14. Is this career area expanding or getting smaller? _____
15. Could you give two or more advantages of your job? _____

_____

_____

16. Could you give two or more disadvantages of your job? _____

_____

_____